# NEW FRIGIDAIRE UNIT DRIES DAMP PLACES

*(Concluded from Page 1, Column 5)*

Air is drawn through the evaporator, which condenses a portion of the moisture by cooling the air. The cooled air is then heated by passing it over the condenser, and blown into the room. Heat from the condenser coils and motor tends to raise the room temperature, which in turn lowers the humidity.

The compressor has a 1½ inch bore and a 1¾ inch stroke, running 38 r. p. m. A ⅓ h. p. motor is used. The width of the machine is 21¾ inches, the depth 20¾ inches, and the height 16½ inches with legs.

From 3,000 to 4,000 cu. ft. of space, with little or no ventilation, can be dehumidified by this machine. With one air change per hour in the room, it will dehumidify from 1,500 to 2,000 cu. ft. Ordinarily the machine will remove from .2 to .8 of a pound of moisture per hour.

The motor load is 350 watts in an 80° F. room. Back pressure is six pounds. Control is effected by means of a humidstat (remote installation) operating on 12 volts through a transformer. A contactor, with 12-volt magnet coils actuated by the humidstat, starts and stops the motor.

Organ lofts are especially susceptible to variations in atmospheric conditions, Frigidaire engineers find. Changes in the moisture content of the air produce similar changes in the wood.

The resulting expansion and contraction of wooden portions of the organ destroys the glued joints and splits the wood. Reed changes react on the tone quality, and the organ can be thrown out of tune by atmospheric conditions.

Wooden shutters which control volume will stick and refuse to move in a humid atmosphere.

To prevent mildew in clothes and linen closets and in basement rooms (which have been turned into additional living space with the coming of oil burners), the Dehumidifier is also adaptable. Beads of moisture in these places will also destroy plaster and finish.

The Dehumidifier is used by libraries in which excessive moisture affects the glue and cloth of book bindings. In subterranean bank vaults this machine may be employed to protect valuables from deterioration and to protect the vault mechanism.

# *Buffalo Servicemen Plan Meetings*

**Buffalo**—Speakers and subjects which they will treat at subsequent meetings of the Buffalo Chapter of the National Society of Refrigerating Service Engineers, were named in a meeting of the group on March 23. At the same time George Kreuder, local president of the chapter, and A. Riencke, vice-president, resigned their offices because of lack of sufficient time to devote to the work.

It was decided to have a speaker at each meeting on a specific subject, assigned beforehand. The topics and speakers named are: construction of cooling units, Mr. Remmy; modern production methods of refrigeration parts, I. Parr; electric motors, C. Wier; installation of commercial units and baffles, A. Lund; chemistry of refrigeration, A. Hulbert; bacteriology as it applies to refrigeration, George Wilson; insulants and construction of boxes, Milton Boneberg; and what the returned goods department looks for in returned units, William Powell.

# Small Refrigerating Units Condition Air For Bakers, Furriers, Candy Plants, Mines

*(Concluded from Page 1, Column 1)*

relative purity of the atmosphere and of the air furnished by the attempering apparatus may be had by exposing sterile films of agar-agar or gelatine to both conditions simultaneously. A 15-minute exposure is usually sufficient, and cultures may be obtained in from one to three days' time, from which comparisons can be made.

The vaults of most banks are centrally located and because of their weight and bulk are usually installed in the basement or at bed rock level.

The cost of equipping a bank vault in the course of construction, with temperature and humidity control apparatus would be moderate. Existing structures could also be provided with air control, but the cost would be greater due to the difficulty of piercing and altering the walls.

### Cooling Bank Vaults

Vault cooling is best accomplished by using a system of tubes or pipes arranged around the walls at the ceiling, the pipes directing the treated air against the ceiling, from which it will descend by mixing with the vault atmosphere, bringing the air in the chamber to a comfortable condition without inducing drafts. The surplus air escapes through the open vault door and acts as a barrier or screen against the inrush of warm, humid air.

Another method, which, however, requires periodical attention, is to provide a false ceiling, leaving a clear space of about 1½ in. between the two ceilings. This false ceiling may be constructed of pierced metal or metallic screen.

One of the most important food staples is bread, and public demand is made for a uniform product. It is little realized that the baking industry is one of the most handicapped, by reason of such variances of material, temperature and humidity.

It has been revealed through close study that the most critical elements are temperature and humidity, and without their absolute control, standardization of the product is difficult to attain. The difference in flours is offset where temperature and humidity is under control. Bread is a food staple that must always be good, uniform, and of a high standard.

The most difficult portion of the bread making process is the control of fermentation, within narrow limits, as this action is entirely dependent upon temperature and to a large extent upon humidity.

Old-fashioned bakers, whose products were rarely of uniform quality, were at the mercy of the weather, for "off" days, when the dough would not rise, represented loss of time, labor and money.

With temperature and humidity control, properly conditioned air for the fermenting or dough room is automatically, accurately, and scientifically maintained, regardless of weather, climatic condition, or changes. Thus the dough is cared for in exactly the same manner, day in and day out, and produces a uniform product. The proper temperature control eliminates the great variance with which bakers were formerly forced to contend.

### Yeast Humidity Determined

Bread experts have determined that yeast works best at a temperature of about 75 deg. F., with a relative humidity of about 70 per cent.

Another evil avoided through the use of humidity control is the annoyance known to bakers as "crusting." This occurred when the relative humidity was such that the air absorbed moisture from the dough and caused it to harden through dehydration.

Throughout every department of a chocolate or candy plant, temperature and humidity plays an important part. In the grinding, bolting, working, setting, moulding, hand-dipping or machine enrobing operations, perfect humidity same flavor, aroma, color and appear- and temperature control assures the ance at all times. The unsightly bloom is eliminated and production can be predicted and maintained without variance.

Various factors impose certain restrictions, but under most normal factory conditions a low temperature may be assumed to be 65 deg. F., and a low humidity as 55 per cent.; a low dew-point as 48 deg. F., equal to 3.8 grains of moisture per cu. ft. of air.

The storage of lard requires thorough ventilation, although the temperature need only be 40 deg. F. Air space must be provided by the use of 2 in. x 2 in. wood strips so that the material does not become rancid through stagnation of the air in pockets.

Apples, in barrels, are piled five high, using 2 x 2 in. strips between each layer. Pears and apples, either in boxes or barrels, are best preserved with a temperature of 31 deg. F., although green pears may be kept at 28 deg. F.

Condensed milk, the heaviest product offered for storage, is best kept at 36 deg. F., and should be stored so that air is permitted to circulate freely.

It has been demonstrated that proper humidity control, together with temperature regulation, is the best method of protecting furs, fabrics, carpets, animal pelts, robes and heads, blankets and clothes against moth damage. Moths and beetles form the only valid reason for storage at cold temperatures.

The greatest enemy of furs and woolens is moths, otherwise temperatures and accurate humidity control is not essential. A temperature of 35 deg. F. appears to keep goods in excellent condition, especially where the humidity is maintained at about 60 per cent.

### Used with Blast Furnaces

An illustration of where air conditioning effects a saving of about 12 per cent in fuel economy is demonstrated in blast furnace operation. The air used is forced through banks of refrigerated coils, the pipes of which are so staggered and arranged that the air strikes the cold surfaces and is deprived of its moisture content.

The air is subsequently heated to about 3,000 deg. F. before being admitted to the blast furnace. Since the air weighs considerably less after dehydration, a saving in the horsepower required for the blowing engine is effected.

The problem of mine ventilation is one of great importance, and as time goes on and the mines are driven deeper, the underground conditions will have to be tempered so that workmen can continue to extract ore. Air will have to be provided in sufficient quantity to remove vitiated atmosphere, together with any poisonous or dangerous gases, and maintain the working zones with an atmosphere of such purity that it can be breathed without detriment to health.

In very deep mines additional factors not found in other applications are encountered, the first being the heating of the air as it descends the mine. This heating of air by compression, owing to the increased barometric pressure caused by the weight of the column of air existing between the working level and the shaft entrance, is generally stated to follow the adiabatic law. This produces a rise in temperature of about 5½ deg. F. for every 1,000 ft. of descent.

There is also the strata temperature factor to contend with. This phenomenon is well known to geologists and mining men, who term it the geothermic gradient; expressing the increase in depth necessary to bring about a 1 deg. rise on the Fahrenheit thermometer.

A large single unit may be used to attemperate the air used for circulating through a dry mine, but in the case of a deep or long tunneled mine, where high heat and humidity caused by sweating is encountered, the ideal installation consists of many small units.

These units treat and force the air on to the next treating unit, and the air is thus revitalized many times in its passage through the mine. It is thus possible to operate in narrow tunnels, where dampness and friction is excessive.

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*Merchandising Section*

In Three Parts—Part 1

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## NEW ZEROZONE SYNDICATE PLANS BIG SALES DRIVE

### New York Group Takes Over Management of Chicago Organization

NEW YORK CITY—Aggressive merchandising plans for Zerozone electric refrigerators are now being made, according to H. Richland, member of a New York syndicate which has just taken over the management of the Zerozone Corp.

"The receivership into which the Zerozone Corp. passed in February will be lifted as son as legal arrangements can be made," states Richland.

"The company had nearly a million dollars net assets over liabilities at the time it voluntarily applied for equity receivership," Richland declares.

More than 200,000 Zerozone units have been installed since the first machine was marketed in 1916, according to Richland.

Zerozone electric refrigerators will be manufactured in Chicago as before. Sales headquarters, however, will be established in New York City.

The new syndicate expects to institute an intensive sales drive immediately.

## WILLIAMS ADOPTS 3-YEAR GUARANTEE

BLOOMINGTON, ILL.—Williams Ice-O-Matic refrigerators are now sold with a three-year guarantee.

This announcement was made by President C. U. Williams, April 8, at the close of a day's program given for a delegation from the Capital Paper Co., Ice-O-Matic distributor in Indianapolis, Ind.

The Indianapolis group made the trip to the Williams factory by special train. I. F. Kahn, president and S. C. Kahn, secretary, were among the representatives of the visiting organization.

The train was greeted by a group from the factory. Immediately after, motion pictures and snaps were made of the visitors. The delegates then proceeded to the Administration Building of the Williams factory where a brief talk given on Ice-O-Matic, outlining the various steps in its manufacture.

Each of the factory units was next visited by the delegates, and the inspection was culminated in a luncheon.

During the course of the afternoon, the Ice-O-Matic was discussed from both sales and engineering view-points. The application of Williams advertising to sales was also considered.

After the evening meal, I. F. Kahn, president of the Capital Paper Co., gave a brief resume of the day's discussions, and the visitors departed for Indianapolis.

## DEPARTMENT STORE SALES CAMPAIGN SUCCESSFUL

DETROIT—Approximately 300 live prospects were secured, and 120 refrigerators sold by the electric refrigeration department of J. L. Hudson & Co., one of Detroit's leading department stores, in its annual nine-day Spring Electric Refrigeration Display, which ended April 15.

Most of the sales were made during the last three days of the show, according to J. B. Ogden, head of refrigerator

(*Concluded on Page 2, Column 4*)

## GEORGE BELSEY OPENS MODEL HOLLYWOOD SHOWROOM

HOLLYWOOD, CALIF.—George Belsey Co., Ltd., General Electric refrigerator distributor in Los Angeles and other southern California points, has opened new sales quarters here in the Pantages Theater Building.

The new showroom has a model demonstration kitchen, equipped with range, refrigerator, etc., where cooking and refrigeration classes are being held daily.

Tom Hastings is manager of the new branch quarters.

## *Mason Awards Trophies to Department Managers*

Kelvinator department heads with prize trophies given for 100% employe ownership of electric refrigeration. Left to right: R. A. Lundquist, A. M. Taylor, Gladys Milton, E. W. Lothrop, C. C. Thomas, C. M. Armstrong, G. W. Mason, president, Fred Harris, C. R. Robinson, E. R. Kelley and L. D. Burch.

* * *

## KELVINATOR MAKES SALES TO EMPLOYES

DETROIT—Award of a silver loving cup and seven engraved placques to department managers of the Kelvinator Corp. by George W. Mason, president of the company, April 15, marked the close of a month's campaign to stimulate the buying of Kelvinators by employes of the corporation, who did not have electric refrigeration in their homes.

During the period of one month, 135 Kelvinators of various models were purchased and installed in employes' homes.

Officials of the company revealed that 56.23 per cent of all Kelvinator employes had electric refrigerators in their homes, 50 per cent of which were Kelvinators. The remaining 6.23 per cent occupying rented apartments or houses had electric refrigerators of other makes.

Considerable interest was stimulated in this campaign when it became known that President G. W. Mason would present a silver cup to the department with the highest record, and engraved placques to the departments showing 100 per cent electric refrigeration.

The silver cup was awarded to C. M. Armstrong, vice president and manager of the ReDisCo department, because all but one employe in his big department had Kelvinator refrigerators. The cup was engraved with "Highest Award, Better Refrigeration Campaign, ReDis Co 1931," with a facsimile of the signature of G. W. Mason.

Placques were awarded to the heads of seven departments for 100 per cent electric refrigeration of employe homes. These placques were all engraved "100

(*Concluded on Page 2, Column 1*)

## KELVINATOR ORDERS SET NEW RECORD ON APRIL 13

DETROIT—Orders received on Monday, April 13, marked an all-time record in Kelvinator history, according to H. W. Burritt, vice-president in charge of sales.

For the first 13 days of April, orders received for immediate shipment were 26.7 per cent in excess of orders received during the like period in April, 1930.

Unfilled orders on hand for immediate shipment on the morning of April 14, were 52 per cent in excess of unfilled orders on hand on the same date one year ago.

## COPLAND AGENCY APPOINTS MORE DEALERS IN CANADA

DETROIT—H. M. Robbins Co., export factor for Copeland electric refrigerators, announces that Crowell Brothers, Ltd., Halifax, Copeland distributor in Nova Scotia and New Brunswick, has appointed the following new dealers:

Hayman's Hardware Store, Stellarton, and Crescent Jewelry Company, New Glasgow, Nova Scotia, and Chas. W. Christensen, Grand Falls, J. F. Rice & on, Edmunston, E. T. Gaudet, Moncton, A. W. Philips & Co., Bristol, C. R. Ryder, St. Stephen, and Kerrigan & Everett, Woodstock, New Brunskick.

## *Copeland Changes Stock Structure*

MT. CLEMENS, MICH.—The proposed change in stock structure of Copeland Products, Inc. to allow for a new issue of no par value common stock was approved by stockholders at a recent meeting here, according to Louis Ruthenburg, president of the company.

This change in the capital stock structure provides for a new issue of 100,000 shares of no par value common stock, of which 52,265 will be exchanged for all old issues on the basis of one share of the new stock for three shares of the old "A" stock, or one share of the new stock for thirteen shares of the old "B" stock.

There is outstanding at the present time 101,991 shares of Class "A" stock and 234,890 shares of Class "B" stock.

## G.E. SPONSORS SCHOOLS FOR COMMERCIAL MEN

CLEVELAND — For the purpose of emphasizing commercial sales and the entire line of commercial refrigerators, a number of commercial schools are being sponsored in various sections of the country by the electric refrigeration department of the General Electric Company.

Nine meetings in all will be held. They will be attended by commercial managers, wholesale managers, sales promotion managers and field contact men employed by the distributors, and by officials from Cleveland.

At these conferences will be taken up the use of the material that has been available to the fild, selling plans on water coolers and commercial cabinets, as well as product information, organization problems, selecting and training salesmen, dealer possibilities and activities.

Most of the meetings will be one-day affairs, although a couple on the west

(*Concluded on Page 2, Column 5*)

## WESTINGHOUSE CONSIDERS 50% PRODUCTION INCREASE

MANSFIELD, OHIO—Increase in the production of the Westinghouse apartment model from 200 to 300 units per day at the East Springfield, Mass., plant is being considered by officials of the company, according to Carl D. Taylor, sales manager of the Westinghouse refrigeration department.

Production of De Luxe models, Mr. Taylor said, will continue at the rate of 100 units per day.

## MAYTAG REFRIGERATORS NOT ON MARKET, OFFICIAL STATES

NEWTON, IA.—"We are not marketing an electric regrigerator in connection with our line of washing machines," declares R. A. Bradt, vice president of the Maytag Co.

Reports that this company would begin merchandising an electric refrigerator in the Southwest are thus declared unfounded by Maytag officials.

## FRIGIDAIRE RECORDS BROKEN IN SHOWING

DAYTON — Reports from 40 cities throughout the United States show that floor sales during the Frigidaire spring showings, which are being used to present the new white porcelain-on-steel household electric refrigerators of this corporation, have averaged one to every eleven persons who visited the display rooms.

The reports come from such cities as New York, Kansas City, Los Angeles, Portland, Atlanta, Ft. Worth, Boston, Cleveland, Chicago and Baltimore.

Record-breaking crowds were reported in a number of sections. New York City, closing its spring opening several days ago, reported that 1,590 visited showrooms there during the nine days of the event and that 264 floor sales were closed.

The Dayton retail store broke all records for visitors when 2,654 visitors came into the showroom during the nine days. A total of 118 floor sales were made, and during one of the days the floor sale record, made during the height of the 1929 selling season, was shattered.

Stover Co., Frigidaire distributor in Chicago, reported 1,751 visitors and 238 floor sales in one week of their spring opening. St. Louis in the same length of time received 1,162 visitors and sold 136 of the new Frigidaires on the floor.

In practically every section, according to reports, the spring showings have been attracting considerable public attention, and practically all of the spring openings held to date, even in the smallest towns, have been well attended.

## GEORGIA POWER CO. HAS NEW COMPENSATION PLAN

ATLANTA, GA.—A new method of paying salesmen of electric refrigerators is contemplated by the Georgia Power Co., according to H. A. Pendergraph, merchandising manager of this aggressive Atlanta sales organization.

The 1931 sales drive on refrigeration will begin May 4, with a probable quota of $850,000. At that time Pendergraph hopes to have the new compensation plan in effect.

By the terms of this scheme, salesmen will receive a percentage of the retail price of each electric appliance they sell, together with a percentage of the

(*Concluded on Page 2, Column 2*)

## SERVEL COMMERCIAL LINE ADDED BY TOVAN

CINCINNATI — The Tovan Electric Co., 327 E. Third St., wholesaler of radios and Electrolux refrigerators, is now distributing Servel domestic and commercial refrigeration.

The Anour Co., which recently moved to new showrooms at 805 Race St., will be the main retail headquarters for the Tovan company.

Max Thurnauer is president of both companies. S. M. Thomas is sales manager of the Tovan company, and W. E. Paul, sales manager of the Anour company.

## COMMITTEE KILLS MISSOURI UTILITY SELLING MEASURE

### Illinois, Texas Legislatures Still Considering Ban On Merchandising

JEFFERSON CITY, MO.—The Maxey bill, which would prohibit merchandising by public utilities, has been killed by the State Senate committee, reports Charles U. Becker, Secretary of State of Missouri.

This measure was supported here by representative of hardware and furniture dealers.

### ILLINOIS

SPRINGFIELD, ILL.—Action on House Bill No. 546, which would prohibit merchandising by public utilities, is expected within the next fortnight, according to Representative Roy Barnes, who introduced the bill.

This measure has been read by title, ordered printed, and referred to the Committee on Public Utilities and Transportation. (Full text printed on page 19 of Merchandising Section of ELECTRIC REFRIGERATION NEWS, March 25).

### TEXAS

AUSTIN, TEX.—A measure introduced in the Texas legislature to prohibit public utilities from selling merchandise has been reported favorably by the committee to which it was referred, but no further action has been taken by the senate, according to Robert Barker, secretary of the senate.

Furniture, hardware, electrical, plumbing and radio dealers throughout the state are pushing this bill in an effort to enjoin public utility companies from

(*Concluded on Page 2, Column 4*)

## UTILITY SETS UP QUOTA OF 20,000 FOR JUBILEE

NEW YORK CITY—Twenty thousand electric refrigerators will comprise the combined quota for the subsidiaries of the Associated Gas & Electric System in their Spring Jubilee Drive, which will be set in motion May 11 and continue to June 27.

The spring campaign of the subsidiaries will tie in closely with the national sales program sponsored by the Electric Refrigeration Bureau of the National Electric Light Association.

Officials of the company have placed the 1931 quota at 30,000 refrigerators, 5 per cent of the domestic meters on the System's power lines. Present plans call for sales of two-thirds of this quota in the intensive spring campaign.

Last year in the six weeks' Refrigeration Jubilee, April 15 to May 31, member companies added a total of 13,741 mechanical refrigerators to their power lines.

The plan book of the coming campaign incorporates use of sales promotion material, advertisements, etc., which have been prepared by the Electric Refrigeration Bureau for the national program.

In order to arouse and maintain interest, a contest will be held between the associated companies. Each will be represented by a blimp with its group

(*Concluded on Page 4, Column 1*)

## NEW YORK FRIGIDAIRE SALES REACH NEW MARK IN MARCH

NEW YORK CITY—Frigidaire retail sales during March in New York district established a new high record, according to E. G. Biechler, president of the Frigidaire Corp.

The greatest increase was achieved in household division, which sold 75 per cent more Frigidaires than during March a year ago, and 120 per cent more than in February of this year.

# APEX REFRIGERATOR DEALERS ANNOUNCED

CLEVELAND—Apex Rotarex Co., recent purchasers of the entire refrigeration business of the Wayne Home Equipment Co., of Fort Wayne, Ind., has announced new dealers for the Apex refrigerator in Cleveland.

Four of Cleveland's largest department stores, The May Co., the Halle Brothers Co., Sterling Welch Co., and Wm. Taylor Son & Co., have added the Apex refrigerator line. Kinney & Levan Co. and the Bing Furniture Co. are also dealers.

Other new dealers are: Allen Electric Co., 2120 East 19th St., Aldrich-Howey Co., 2121 East 4th St., Bradley Furniture Co., 602 Prospect Ave., Brown Bros., 2163 East 9th St., Colonial Furniture Co., 2193 Ontario St., Coyne Furniture Co., 2265 Ontario St., I. Kurtz Furniture Co., 310 Prospect Ave., Mayer-Marks Co., 320 Prospect Ave., and the 5 stores of the Royal Furniture Co.

# MASON AWARDS TROPHIES IN KELVINATOR CONTEST

(*Concluded from Page 1, Column 2*)

Per Cent Refrigeration Award" with name of the department and signature of President Mason.

Those receiving these placques were: C. C. Thomas, cabinet design; L. D. Burch, patents; E. W. Lothrop, statistical; Mrs. Gladys Milton, dictaphone; A. M. Taylor, advertising; R. A. Lundquist, export, and E. R. Kelley, ice cream cabinet division.

Departments 98, service and repair, and 36, coil assembly, were awarded suitably engraved placques. They were presented to R. C. Robinson and Fred Harris, respectively.

# Georgia Power Co. to Try Out New Method of Paying Salesmen

(*Concluded from Page 1, Column 4*)

estimated annual revenue (electrical current consumed) which that appliance will produce for the utility.

Each salesman will have a drawing account of $100 a month against commissions, which will be payable quarterly. No salaries will be paid to men who are strictly salesmen.

"We want to impress upon our salesmen that they are actually selling revenue, not appliances," Pendergraph explains, "and we think this method will help drive home the point." For the 12 months ending March, 1931, kilowatt hour sales per domestic customer of this utility were 705. Pendergraph wants to knock that mark into a cocked hat.

At present, all appliance salesmen receive a salary of $100 a month, plus five per cent on all sales made, if these sales total less than $2,000 in any month. If these sales pass the $2,000 in one month, the salesman receives a 10 per cent commission.

Under this plan the sales cost per salesman of each appliance has averaged about 11 per cent, taking the year as a whole. This amount varies greatly of course, with the season.

The total sales expense for each appliance including advertising and demonstrations averages about 14 per cent, Pendergraph finds. The Georgia Power Co. does not cut prices. Terms are granted for as long as 30 months.

Appliances sales are pushed by a series of successive drives. Right now ranges are getting attention. Refrigerators will be next, and so on down the line, including fans, washing machines, water heaters, lamps, toasters, irons, etc.

If a salesman can sell one electric appliance, he can sell any, utility officals believe.

The territory covered by the Georgia Power Co. in its merchandising activities is divided into five divisions. These divisions, in turn, are divided into districts. Some 90 retail stores are allocated among the various districts.

Each division has a supervisor, who spends all his time out in the territory, keeping the ball rolling. In towns where the available prospects do not justify the maintainence of appliance salesmen, salaried employes of the power company in that town do the merchandising. They receive five per cent on all appliances they sell, in addition to their regular salaries.

"The South catches the tail end of a depression," declares Pendergraph, "so we do not look for any record sales volumes this year. We were hit in September of last year, and tough sledding has continued clear through March. Business is now picking up and indications are more hopeful than they were in the earlier part of the year."

General Electric household refrigerators and Kelvinator commercial refrigerating machines are sold by the Georgia Power Co. The Westinghouse line has recently been added.

# NEW HAVEN CO. CHANGES CORPORATE NAME

NEW HAVEN, CONN.—Kelvinator Refrigerating Co. has changed its name to General Service & Equipment Co.

G. R. Mance, president and treasurer, said the change was made because the firm's title did not cover its activities fully, as two makes of oil burners are handled in addition to Kelvinators.



# *Detroit Show Nets 300 Prospects*

(*Concluded from Page 1, Column 1*)

sales, who believes the increased interest toward the closing days of the sale was due to the warm weather and the cumulative effect of the 220 inches of newspaper advertising which was run during the nine-day period.

Copeland, Electrolux, Frigidaire, General Electric, Kelvinator, Majestic, Norge, and Westinghouse refrigerators are handled regularly by the Hudson store, four of these makes having been sold since Hudson's refrigerator merchandising was started in 1926. All models are sold at list prices.

Additional equipment such as silver dessert dishes and electric alarm clocks provided by the manufacturers and given with each refrigerator sold, was the special buying incentive during the sale, Ogden states.

Free ice-cream service to an average of 210 people daily by domestic science women was effective in securing prospects, he believes. Moreover, the hostesses and demonstrators were very helpful in attending to people when the salesmen were all busy with other prospects.

Window displays were devoted to all eight makes of refrigerators during the drive, and N. E. L. A. slogan "Invest in an Electric Refrigerator" was tied in with advertising appeal and sales promotion. The main theme of the advertising copy offered the prospect a selection from 60 different models of eight nationally-known manufacturers.

Toward the end of the sale, newspaper advertising stressed the shortness of the time left to take advantage of the special sale. Previous to and during the drive, small cards announcing the sale were wrapped with some 50,000 packages sent to the store's customers.

Ogden thinks that the department store is a logical outlet for electric refrigerators because its customers transact their business in a definite, what he terms, "buying atmosphere." He cited their spring refrigerator display of two years ago as a sales effort which lacked the buying atmosphere; at that time the display was held in an isolated room on an upper floor, and the results were much less than those of the past two years when the display was held on the tenth floor in the midst of other sales activity.

Department store merchandising of electric refrigerators require products from manufacturers of sufficient reliability to insure that all service obligations will be kept, and the manufacturer should have a distributor or factory branch in the same town, Ogden believes.

# SECOND APPLIANCE STORE CLOSED BY UTILITY CO.

LOS ANGELES, CALIF.—The Southern California Edison Co. has discontinued the retail sale of electrical appliances in its San Joaquin Valley office.

The removal of its entire sales force from this area has been announced in display newspaper advertisements in this territory. Company officials state that this change in its sales policy is an experiment.

This marks the second instance of the withdrawal of the Southern California Edison Co. from retail merchandising in an effort to determine whether or not the normal growth of its business was dependent on these activities.

Its first experiment along these lines, inaugurated in the Long Beach district in September, 1930, and will be continued throughout 1931.

# MISSOURI KILLS POWER CO. MERCHANDISING BILL

(*Concluded from Page 1, Column 5*)

merchandising electric refrigerators, radios, and other electrical appliances.

H. E. Dill, secretary of the Retail Furniture Association, sent out an appeal to more than 500 retail furniture dealers to attend the state convention held in Houston, April 20, 21, 22 and back this bill.



# PRODUCTION STARTED ON NORWEST MODELS

VANCOUVER, CANADA—Production of domestic and commercial electric refrigeration lines under the trade name of "Norwest" has been started here by the Northwestern Mfg. Co., which was organized to take advantage of the Dominion inter-preferential tariffs.

Exclusive manufacturing and sales rights for the British Empire have been secured by the new company from the Parker Ice Machine Co. of San Bernardino, Calif., and O'Keefe & Merritt of Los Angeles. Large sulphur dioxide, methyl and ammonia compressors are made under a Parker license and the small domestic machines are manufactured under a O'Keefe & Merrit franchise.

A. E. Downey, retired Winnepeg business man, is president of the company, but does not take an active part in the administration.

W. G. Wright, vice president and general sales manager, is a member of the American Society of Refrigerating Engineers and has spent 18 years specializing in refrigeration in the United States, South America and Europe. He is directing the manufacturing and selling operations of the company.

Assisting Mr. Wright are D. K. Bell, manager, D. Robertson, chief engineer, and A. M. Campbell of the commercial division.

According to officials of the company, dealer connections have all ready been established in New Zealand, Australia, South Africa and India. Shipments have been made to representatives in Australia and New Zealand.

Marketing plans for the Dominion call for the franchising of dealers in all of the principle cities.

Comprising the compressor lines are units ranging from the 1-6 hp. household model up to a 50 ton ammonia machine.

All steel cabinets are manufactured at the Norwest plant located at 2781 W. 4th Ave. Sizes of cabinets in the domestic line run from 4 to 10 cu. ft. in capacity.

A feature of the domestic model is a control for regulating the freezing speeds in the cooling compartment.

Display cases and large market coolers will also be produced by the company, according to Mr. Wright.

In conjunction with its refrigeration line, the firm is manufacturing an oil burner embodying many new improvements.

This burner which will also be marketed under the "Norwest" trade name, is fully automatic in operation.

# GENERAL ELECTRIC STARTS COMMERCIAL CONFERENCES

(*Concluded from Page 1, Column 3*)

coast will be of two-day duration inasmuch as those sections do not present opprotunity for frequent contact with the Cleveland headquarters.

Following is a list of meetings and the distributorships which will be represented at each, as arranged by W. E. Landmesser, manager of the General Electric commercial division.

Cleveland, April 20—Cushman Refrigeration Co., Page-Morris, Inc., Wheeler-Consler Corp., Erco, Inc., Ochiltree Electric Co., Milnor Refrigeration Co., Electric Refrigeration Co., Inc., Bard-Barger, Inc., Willis Co., F. P. Lutz Co., H. G. Bogart Co., Electric Home Appliance Co., W. N. Hogan, Inc., Caswellstull, Inc., Hoosier Electric Refrigerator Co., R. Cooper, Jr., Inc.

Philadelphia, April 22—Judson C. Burns, Inc., Rex Cole, Inc., The Hines Co., National Electrical Supply Co., N. K. Ovalle, Inc., Clark Adams, Inc., P. H. Harrison & Co., Commonwealth Refrigeration Co., Gentsch & Thompson, Inc., Newton-Parons Co., Breckenridge, Inc., Gould-Farmer Co., Eastern Service Refrigeration Co., Modern Home Utilities, Inc.

Atlanta, April 24.—W. D. Alexander Co., Southern Refrigeration Co., H. & G. Refrigeration Co., Cope Brothers, George Paterson, Inc., Alabama Refrigeration Co., A. G. Riddick, Inc.

Kansas City, April 27.—Glueck & Co., James & Co., Inc., Johnson Electric Co., Storz Electric Refrigeration Co., Warde B. Stringham Co., Ahrens Refrigeration Co., O'Bannor Brothers, B. K. Sweeney, Inc.

Minneapolis, April 29.—O. F. Stuefer, Inc., E. H. Schaefer Co., A. S. Dunning, Inc., D. S. Stophlet, Inc.

Seattle, May 4.—Gordon Prentice, Inc., F. B. Connelly Co., The Laidley Co.

San Francisco, May 7 and 8.—The L. H. Bennett Co., Ltd., Valley Electrical Supply Co.

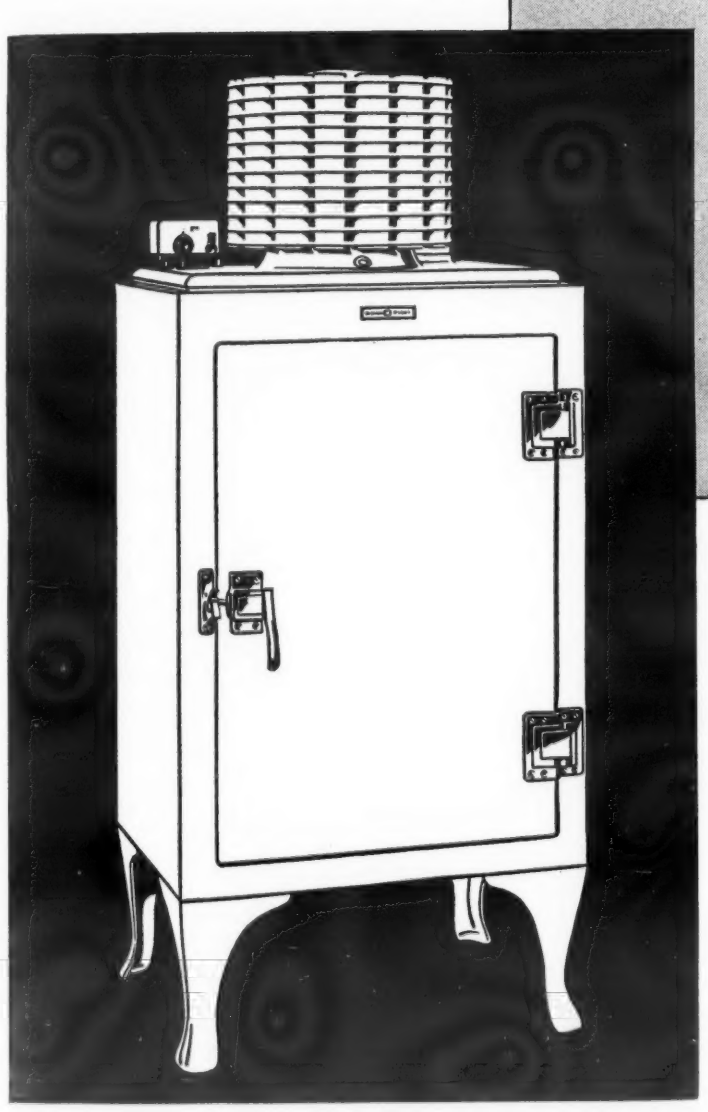
Los Angeles, May 12 and 13.—The George Belsey Co., George T. Bauder.

Salt Lake City, May 18.—The Frank Edwards Co.

The meetings will be attended by W. E. Landmesser, commercial division manager, and others of the Cleveland headquarters.

# Performance Sold

# 1,000,000 GENERAL ELECTRIC REFRIGERATORS



## New Low Prices
## New Refinements
## 3 Year Guarantee
## now make sales even easier!

IN LESS THAN FOUR YEARS a million people bought General Electric Refrigerators. Performance . . . and performance alone . . . sold them!

INVEST IN AN ELECTRIC REFRIGERATOR

• In basic design, in simplicity of operation, the General Electric has always appealed to the refrigeration-wise as the outstanding development in electrical refrigeration.

• Now come three new features to absolutely clinch sales . . . to promote immediate General Electric ownership. New refinements . . . new low prices . . . an all-inclusive 3-Year Guarantee, on each entire model in the whole domestic and commercial lines, that precludes possibility of service expense! New low terms are now in force, too . . . terms that start as low as $10 down.

• A huge national advertising campaign is educating the public to the advantages of General Electric ownership. A million satisfied owners are boosting General Electrics to their friends . . . telling them of their own experiences in expense-free service. On the crest of this great wave of friendly publicity, the General Electric has swept into a commanding position of leadership.

• New refinements and new low prices will sell even more General Electrics. But to dealer and consumer alike, this is the final and most convincing point in the General Electric's favor . . . the 3-Year Guarantee that protects both from the worry and expense of maintenance service! Remember this point . . . . General Electric Refrigerators sell easily . . . . and STAY SOLD!

### Sliding Shelves
### Acid-Resisting Porcelain Interiors

New sliding shelves make food easy-to-reach. Interiors are porcelain lined, stain and acid resisting. Cabinets are all steel—won't absorb odors, won't warp. Broom-high legs. Simply plug in at any convenience outlet—that's all the installation the General Electric needs. Within the ageless steel walls of the famous Monitor Top, all the mechanism of the General Electric is hermetically sealed—operating in a perpetual, quieting bath of oil.

Join us in the General Electric Program, broadcast every Saturday evening over a nation-wide N. B. C. network.

# GENERAL ELECTRIC

## ALL-STEEL REFRIGERATOR

DOMESTIC, APARTMENT HOUSE AND COMMERCIAL REFRIGERATORS—ELECTRIC WATER COOLERS AND MILK COOLERS

General Electric Company, Electric Refrigeration Department, Section DF42, Hanna Building, 1400 Euclid Avenue, Cleveland, Ohio

# UTILITY SETS 20,000 UNIT SPRING QUOTA

(*Concluded from Page 1, Column 5*)

manager as captain, and these will race across a map of the United States, picking up mileage as the sales come in.

Sales contests will be reported daily, and an attempt will be made to stimulate public interest by means of publicity stunts.

Each property will prepare its own employes' manual for the Jubilee. These booklets will contain every detail that employes should know about the campaign program, about refrigeration selling pointers, and about canvassing for prospects.

Each employe will be asked to do one of three things:

1. Buy an automatic refrigerator for his own immediate use.

2. Sell an automatic refrigerator to one of his many friends, relatives, or acquaintances.

3. Obtain a prospect resulting in the sale of a refrigerator.

Radio broadcasting will be used to acquaint the public with the Jubilee offer ($10 down, 30 months to pay, 12 per cent financing charge on balance unpaid), while demonstrations will be conducted by the home service departments.

The group of companies composing the Associated Gas & Electric System operates over a territory that includes parts of Arizona, Arkansas, Connecticut, Delaware, Florida, Illinois, Indiana, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Missouri, New Hampshire, New Jersey, New Mexico, New York, Ohio, Oklahoma, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Vermont, West Virginia, Philippine Islands, New Brunswick, Nova Scotia and Prince Edward Island.

# *Mayflower Distributors, Officials Confer in East*

New York and New Jersey Trupar Men Who Reported Increased Sales

## POUGHKEEPSIE DEALERS PLAN SUMMER CAMPAIGN

POUGHKEEPSIE, N. Y.—Local electric refrigerator dealers are making a concerted drive to increase sales during the coming summer. They are stressing the use of electric refrigeration for the keeping of fresh fruits, vegetables and frozen foods.

Dealers in this section, who are working with the N. E. L. A. Electric Refrigeration Bureau, planning intensive merchandising efforts through the use of special advertising, demonstrations and selling methods are: John Van Benchoten, Inc., Kelvinator; Wallace Company, General Electric; H. A. Warden, Frigidaire; Perlmutter Furniture Co., Majestic; Hickok Music Co., Westinghouse; Ralps Overocker, Servel; W. M. Anderson of Millbrook, Westinghouse; Pierre Cookingham of Rinebeck, General Electric; Walter Seaman of Highland, Kelvinator and Paul Roberts of Pine Plains, Frigidaire.

The services of Rosabel Cologney and Ruth Kleinmaier, home service directors of the Central Hudson Gas and Electric Corp., are offered to anyone purchasing electric refrigerators from the above mentioned dealers.

Dealers can also avail themselves of this service for demonstrating the advantages of electric refrigeration.

## SERVEL HERMETIC ENTERS OMAHA TERRITORY

OMAHA—Servel Hermetic refrigerators are now being sold by the E. B. Williams Co., which operates an electric shop carrying washers, radio, lamps and the smaller equipment for the home.

* * *

## MEYERS, GEILER, BRANDT SPEAK TO EASTERN MEN

NEW YORK CITY—Increased sales were reported by Mayflower distributors in the New York and New Jersey areas when they gathered at the offices of the Trupar Mfg. Co. here recently for a three-day sales and service conference.

Attending the meetings, which were under the direction of Carl Brandt, service manager, were distributors from Manhattan, Bronx, Brooklyn, Patchogue and Liberty, all in New York, and Newark and Trenton, N. J.

Officials of the Trupar home office in Dayton, Ohio, headed by W. M. Meyers, treasurer and merchandising manager, were on hand to speak to the representatives. F. C. Geiler, vice president in charge of manufacturing and production, and Carl Brandt, both members of Mr. Meyer's convention party, also spoke at the meetings.

Presiding at the banquet at the New Yorker Hotel, which concluded the conference, was John Wirtz of the New York organization who acted as toastmaster. Mr. Meyers as speaker of the evening discussed sales problems to be met and how to meet them.

## COLLINS & LANE PLAN BIG LEONARD CAMPAIGN

LOS ANGELES—Collins & Lane, 1400 W. 7th St., distributor in southern California for the Leonard electric refrigerator, now has 75 dealer outlets operating in their territory.

Present plans of Collins & Lane call for an extensive advertising program to cover some fifteen cities in southern California of over 10,000 population. This campaign to reach the consumer field will consist largely of newspaper advertising, although considerable direct mail promotion will be used.

The Eastern Outfitting Co., Platt Music Co., Fitzgerald Music Co. and Goodan-Jenkins are Leonard dealers in Los Angeles. Among the recent appointments in Long Beach are those of O. S. Peterson Co. and Radioland Service, while in Glendale, Leonard refrigerators are sold by the Glendale Music Co., and in Pasadena by the Modern Music Co.

## ROYCRAFT REPORTS GAIN IN SALES

MINNEAPOLIS—Business conditions in the northwest territory are improving, according to L. W. Cohen, president of the Roycraft Corp., Majestic radio and refrigerator distributor for Minnesota, North Dakota and western Wisconsin.

"Our business for the first quarter has reflected several indications of improvement," Mr. Cohen said. "Sales of radios and refrigerators during the first three months of 1931 ran 12 per cent ahead of sales for the last quarter of 1930.

"We have expanded our territorial set up so that now 520 dealers are handling Majestic products under our company."

## FIRST FRIGIDAIRE REGIONAL MEETING HELD IN ATLANTA

ATLANTA, GA.—The first of a series of regional meetings of Frigidaire field men was held here April 9, 10 and 11, under the direction of J. B. Reeves, Frigidaire regional field manager.

Similar meetings were held at Dallas, Tex., April 13; Kansas City, April 14; Minneapolis, April 15; Chicago, April 16 and 17; Washington, D. C., April 18; New York City, April 19; Boston, April 20, and Dayton, Ohio, April 21.

H. C. Jamerson and L. A. Clark of the Frigidaire home office spoke at the Atlanta session April 11, and made a swing around the circle of the other meetings. George F. Taubeneck, editor of ELECTRIC REFRIGERATION NEWS, also spoke at the Atlanta meeting April 11.

# G. E. DISTRIBUTORS START BIG CONTEST

CLEVELAND — The transcontinental blimp race from San Francisco to Atlantic City of the General Electric refrigerator sales organization started April 1, continuing until June 30.

Huge maps are hung in distributor and principal dealer sales rooms, showing the day-by-day results of the race. A mammoth zeppelin, labeled "Quota," is moved forward on the map each day.

Huge monoplanes, representing the district representatives, large blimps representing the distributors, medium-size blimps representing dealers and pony blimps representing salesmen are moved forward according to the number of daily sales.

The blimp contest has been divided into seven squadrons, each of which is headed by a commander in a fast monoplane. These divisions, with the distributing organizations in each, are:

Squadron No. 1.—Commander R. H. Ferguson, district representative; Caswell-Stull, Inc., Detroit; R. Cooper, Jr., Inc., Chicago; A. S. Dunning, Inc., Duluth; Glueck & Co., Kansas City; James & Co., Inc., St. Louis; E. H. Schaefer Corp., Milwaukee; D. S. Stophlet, Inc., Madison, Wis.; Warde B. Stringham Co., Des Moines, and Stuefer-Shannon, Inc., Minneapolis.

Squadron No. 2.—Commander A. E. Freshman, district representative; Ahrens Refrigerator Co., Oklahoma City; Alabama Refrigeration Co., Birmingham; Cope Bros., Memphis; Edmundson Refrigerating Corp., Houston; Griswold-Rogers, Inc., Dallas; O'Bannon Bros., Little Rock; A. G. Riddick, Inc., New Orleans, and Wright Bros. Refrigeration Co., San Antonio.

Squadron No. 3.—Commander Fred T. Harvey, district representative; Breckenridge, Inc., Springfield, Mass.; Rex Cole, Inc., New York; Eastern Service Refrigerator Co., Lowell, Mass.; Erco, Inc., Buffalo; Gentsch & Thompson, Boston; P. H. Harrison, Newark; Modern Home Utilities, Inc., Waterbury, Conn.; Newton-Parsons Co., Portland, Me.; Page-Morris, Inc., Albany, and Wheeler-Consler Corp., Rochester, N. Y.

Squadron No. 4.—Commander G. S. Miller, district representative; W. D. Alexander, Atlanta; Judson C. Burns, Philadelphia; Commonwealth Refrigeration Co., Richmond, Va.; Clark Adams, Inc., Atlantic City; George S. Patterson, Inc., St. Petersburg; H. & G. Refrigeration Co., Inc., Greenville, S. C.; Hines Co., Baltimore; National Electric Supply Co., Washington; N. K. Ovalle, Inc., Harrisburg, Pa., and Southern Refrigeration Co., Charlotte, N. C.

Squadron No. 5.—Commander B. C. Ritter, district representative; E. O. Cone Co., El Paso; F. B. Connelly Co., Billings, Mont.; Frank Edwards Co., Salt Lake City; Johnson Electric Co., Wichita, Kans.; Storz Refrigeration Co., Omaha, and B. K. Sweeney, Inc., Denver.

Squadron No. 6.—Commander G. J. Ruck, district representative; George T. Bauder, San Diego; George Belsey Co., Ltd., San Francisco; Laidley Co., Portland, Ore.; Gordon Prentice, Inc., Seattle; W. A. Ramsay, Ltd., Honolulu, and Valley Electrical Supply Co., Fresno, Calif.

Squadron No. 7.—Commander B. M. Wathall; Bard-Barger, Inc., Columbus, O.; H. G. Bogart Co., Toledo; Cushman Refrigeration Co., Cleveland; Electric Home Applicance Co., Charleston, W. Va.; F. P. Luts Co., Dayton; Ochiltree Electric Co., Pittsburgh; W. N. Hogan, Inc., Wheeling, W. Va.; Electric Refrigeration Co., Inc., Louisville; Hoosier Electric Refrigerator Corp., Indianapolis; Willis Co., Akron, and Milnor Refrigeration Co., Cincinnati.

Headquarters Flight Staff—P. B. Zimmerman, G. J. Chapman, W. J. Daily, M. F. Mahony and A. C. Mayer.

Retail sales managers responsible for retail quotas have divided their quotas among supervisors, branch stores and salesmen. Apartment house and commercial managers have also followed this procedure.

Dealer and central station quotas have been split between contact men and dealer supervisors, the quota of each depending upon the outlets in their particular territory.

Points will be awarded for all sales in the contest, the points counting towards prizes. Cash prizes will range as high as $1,500, while merchandise prizes will include numerous items, from chests of silver to fur coats.

## WURLITZER IN CINCINNATI TO SELL SERVELS

CINCINNATI — Wurlitzer's seven stores in this area will start active merchandising of the Servel Hermetic line of electric refrigerators, according to announcement by the Griffith Victor Distributing Corp., Servel distributor.

R. Wurlitzer of the Rudolph Wurlitzer Co., J. S. Watters, merchandising director, and E. Farny, an executive, recently inspected the Servel factories at Evansville, Ind.

An initial order for three carloads of the new Servel Hermetic refrigerators has been placed by the Wurlitzer company.

# STOVER CO. MAKING BIG SPRING SHOWING

CHICAGO—Six major showrooms of the Stover Co., Frigidaire distributor here, have been decorated in futuristic styles and green, blue and gray blended colors, as part of the annual spring drive. Fifty new salesmen have been added to the selling force of the company, making a total of 300 in the Chicago district.

A green frosted-glass water server is being given to each customer who buys a refrigerator in the campaign.

Mrs. Mary Heafer is directing the home service demonstrations by domestic science women in the major showrooms, and is making arrangements for them among the 16 associate dealers. The making and serving of ice cream to prospective customers is a major part of this activity.

Mrs. Heafer has also addressed various Parent-Teachers' Associations and women's clubs in Chicago and vicinity, showing women how to prepare frozen desserts.

## DALLAS COPELAND CO. HAS NEW MANAGER

DALLAS, TEX.—J. R. Smith, formerly with the Copeland Sales Co. of Detroit, has assumed management of the Dallas Copeland Co.

Mr. Smith is widely known in the refrigeration business and has seen service in Hawaii, Philippine, Angel, Virgin and Marianis Islands, Cuba, Panama and several points in the Orient.

The company recently moved into new quarters at 2201 Commerce St., where the wholesale distribution of Copeland products in the north half of Texas will be conducted.

## *Grunow Engineers Lose No Time*

Luncheon conferences are part of the day's program at the Grunow laboratory, where plans are being rushed for a new electric refrigerator. Pictured here (reading clockwise) are: C. Valanta; H. Schaefer; F. M. Edwards; Dr. J. D. Jordan; M. W. Kenney, chief radio and refrigeration engineer; A. R. Perry; Earl Allen; R. H. Fricker; and A. C. Huff

## THREE SPRINGFIELD FIRMS TAKE DEALERSHIPS

SRINGFIELD, ILL.—The R. Haas Eectric Co., the A. W. Sikking Co., and the Bruce Co. recently completed arrangements with the Koerber-Brenner Co. of St. Louis to act as dealers for Majestic radios and electric refrigerators.

## *Crump Co. Now Norge Distributor*

RICHMOND, VA.—The Norge Corp. of Detroit, Mich., has just announced the appointment of the Benjamin T. Crump Co., Inc., as distributor for Virginia and eastern North Carolina.

Executive officers of the Benjamin T. Crump Co., Inc., are: John M. Wyatt, Sr., chairman of the board; P. A. Seaton, president and general manager; T. A. Stanford, vice-president; C. L. Knowles, secretary-treasurer. S. P. Cornick is manager of refrigeration department, and T. W. Ogden is sales promotion manager.

For more than 50 years this concern has been manufacturing and distributing specialty products. Tire covers and coveralls are made by this concern, which also has been merchandising R. C. A. radios.

## NEW ICE-O-MATIC DEALER

POUGHKEEPSIE, N. Y.—The Domestic Oil Heat and Appliance Co. has been appointed dealer for the Williams Ice-O-Matic.

## T. S. PERKINS HEADS NEW WESTINGHOUSE DEPT.

EAST PITTSBURGH, PA.—T. S. Perkins has been appointed general manager of merchandising engineering for the Westinghouse Electric and Manufacturing Co. He will head the new Westinghouse merchandising department.

He will represent S. M. Kintner, assistant vice-president, in his work with supply, appliance, refrigeration, and illuminating engineering departments. Previous to his new position, Perkins was general manager of distribution engineering.

He joined the Westinghouse Co. in 1893, immediately after his graduation from the Worcester Technical Institute.

## GEO. SHEARER JOINS DEALER IN DES MOINES

DES MOINES, IOWA—George Shearer, formerly with the sales division of the General Motors Radio Corp. in Chicago, has been appointed manager of the refrigeration division of the Des Moines Music Co.

# NEW HAVEN DEALERS REPORT SALES GAINS

By Charles B. Barr

NEW HAVEN, CONN.—A broad general uptrend in both domestic and commercial refrigerator sales is reported by New Haven dealers for the first three months of 1931. Increases as high as 50 per cent have been reported by some dealers, and with the spring season now well under way, prospects are declared highly encouraging.

Commercial volume has shown remarkable expansion, a large number of food stores and restaurants having been brought to realization of the benefits of mechanical refrigeration, and the installation of refrigerators in a number of new apartment buildings has swelled the sales total.

A decided improvement in both domestic and commercial sales since January 1 is reported by G. R. Mance, president and treasurer of the Kelvinator Refrigerating Co.

Frigidaire domestic sales for the early part of 1931, particularly in January, were 16 per cent above January, 1930, according to an official of R. G. Rust, Frigidaire dealer. The improvement has continued through February and March.

Copeland sales for February, 1931, were six times as great as in the same month of 1930, according to C. F. Ganter, refrigeration manager of the New Haven Electric Co.

Mr. Ganter attributed this phenomenal increase to the fact that the new line was brought out a month earlier than in 1930, after being introduced to the dealers at a sales convention.

This company's territory includes all of Connecticut except a small area in the southwestern corner, and four counties in western Massachusetts.

J. H. Verba, manager of the radio and appliance department of the H. M. Bullard Co., reports that Majestic refrigerator sales are showing an increase of 25 per cent each month, with the March figure being 50 per cent over January. He expects April to show a jump of 100 per cent over January.

Modern Home Utilities, Inc., General Electric retailers for New Haven and distributors for six Connecticut counties, is showing an increase of 50 per cent in March over the same month last year in the domestic line, with commercial volume greatly increased, according to Miss Anne Johnstone, assistant manager.

General Electric domestic sales in New Britain, a nearby Connecticut city, are well advanced over 1930, according to K. M. Lander, commercial manager of the Connecticut Light & Power Co. office.

## LOUISVILLE CO. ANNOUNCES STAFF CHANGES

LOUISVILLE, KY.—L. H. Miller has been named wholesale manager of the Electric Refrigeration Co. here. George E. Lambert has been made retail sales manager.

The company recently installed six D. P. I. water coolers in the offices of the Louisville Gas & Electric Co. Eighteen apartments in the Sycamore Apartments on Speed Ave. were recently equipped with 9 G. E. refrigerators.

## H. S. SCOTT SUCCEEDS BRADY IN NEWARK AREA

NEWARK, N. J.—H. Samuel Scott has been appointed the New Jersey retail sales manager for the Frigidaire Sales Corp., with headquarters in the Frigidaire Bldg., 554 Broad St., here.

During 1928, Mr. Scott was in charge of the dealer operations for Frigidaire in New Jersey and prior to that time was with Kelvinator in New York.

G. F. Brady, who Mr. Scott succeeds at the Newark office, is now in charge of the Frigidaire Brooklyn retail operation.

## HANNAN NAMED BECKWITH SALES MANAGER

MILWAUKEE—Leo C. Beckwith Co., Copeland distributor, recently appointed T. B. Hannan as sales manager in charge of the Copeland refrigeration division.

# A NEW ALL-TIME RECORD

*. . and every order carried a profit for some*

# Kelvinator Dealer

the recent busin
due to two new products
company a small light flexib
Continued on Page 27.

## Kelvinator Sets Order Record

Orders received on Monday marked an all-time record in Kelvinator history according to a statement issued Tuesday by H. W. Burritt, vice-president in charge of sales.

For the first 13 days of April, orders received for immediate shipments are 26.7 per cent in excess of orders received during the like period in April, 1930. Unfilled orders on hand for immediate shipment on the morning of April 14, are 52 per cent in excess of unfilled orders on hand on the same date one year ago.

Kelvinator business since middle March has shown a steady upswing and greater than the seasonal trend, according to Mr. Burritt.

It is worthy of comment, continued Mr. Burritt, that no one section is outstanding in the influx of current business. Orders are being received in volume from all parts of the country and they cover all the various electric refrigeration products which we make.

Household units, commercial units, ice cream cabinets, water coolers are all increasingly in demand.

**DOW, JONES AVERAGES**

| | | | |
|---|---|---|---|
| 30 | Industrials | 168.43 | —2.64 |
| 20 | Railroads | 92.28 | —0.26 |
| 20 | Utilities | 66.53 | —1.00 |

*from the Financial Page*
*Detroit Free Press, April 15th*

# Kelvinator

COUPON (285)

KELVINATOR CORPORATION
14245 Plymouth Road, Detroit, Michigan

Gentlemen: Please send information regarding the Kelvinator Agreement.

Name _____

Street Address _____

City _____ State _____

MERCHANDISING SECTION

ELECTRIC REFRIGERATION NEWS

*The Business Newspaper of the Refrigeration Industry*

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VOL. 5, No. 17, Serial No. 119, Part 1, April 22, 1931

# The Three-Year Guarantee

IT SEEMS that the industry always has at least one major question about which there is a widespread variation in opinion. Just now it is the three-year guarantee. After listening to the views of several chief executives of leading manufacturing companies, we are inclined to believe that it is just about as complicated a problem, thinking in terms of the industry as a whole, as any one which has confronted us.

Is the three-year guarantee a good idea, or a bad one, for the electric refrigeration manufacturer? For the dealer? For the public? Is this the right time to set up such a standard? Is it a master stroke of statesmanship which will lead the industry to new heights of accomplishment, or is it a dose of poison which will bring woe and misery?

Certainly each manufacturer must decide for himself, based on his experience with his own equipment, just how long he can afford to guarantee his product at a given price. All reports indicate that service costs have been steadily diminishing. It appears that the secret of low service cost is mainly in accuracy of manufacturing processes, and careful inspection of parts and materials, rather than in design.

General Electric, instigator of the three-year guarantee, seems to have complete confidence based on experience. A few manufacturers were quick to meet the standard, and others assert that they can and will do so, if necessary for competitive reasons. There is much criticism of the move, however, even among those who have adopted the idea.

## *The Electrical Idea*

For General Electric, the policy is simply an extension of its previous two-year guarantee. It is in line with what General Electric calls "the electrical idea." This refers to a theory which first came to the writer's attention about 15 years ago while in attendance at a Westinghouse sales school. According to the story told there, electric motors were originally designed to *wear-out,* just as electric lamps are still designed to *burn out* after a certain number of hours' use. In the case of early motors the idea was to build up a profitable business in parts and repairs. (A different theory applies to lamps, namely that they darken and lose their efficiency. Theoretically, they burn out when the waste of current offsets the cost of a new bulb.)

After a number of years, however, the motor manufacturers found that the parts and repair business, instead of coming to them, was going to thousands of small repair shops and independent suppliers of parts. After looking over the situation, they came to the conclusion that they might as well build the motor to last as long as possible without repairs. Certain parts were welded or riveted together to make them "fool proof."

## *The Automotive Idea*

Opposed to the so-called electrical idea is "the automotive idea." All the early experience of automobile manufacturers pointed to the necessity of designing a car which could be repaired easily. Designers made every effort to arrange wearing parts so as to be accessible. Manufacturers encouraged multiplicity of service stations, and demanded that their agents carry a full supply of parts. The whole industry has been organized with a view to giving the customer "service" wherever and whenever desired.

In general, the public has readily accepted the idea of a short term guarantee on automobiles, and is willing to admit that the manufacturer has done his part if the car is "right" when it leaves the salesroom.

In addition to these fundamental differences of opinion, based on different experience and business training, there are two schools of thought as to the proper way to meet the needs of the public during depression conditions. One theory is that, since the public as a whole has less money to spend, economy must be the order of the day. This theory is exemplified by the midget radio, the midget car, the miniature golf course, and the appearance on the market of a host of commodities in smaller packages or cheaper quality.

Opposed to this is the theory that, while a certain section of the public is destitute, there remains a large section whose income is practically the same; but that this latter group becomes more frugal and more insistent upon quality than ever before. Business executives who see their way through a depression in terms of the latter theory, believe that prices may be maintained, but that value must be increased. They seek to make their product better and more attractive, increase their advertising, and give special attention to the selection of prospects.

## *Added Burden of Cost*

Regardless of these broad theories, the question remains as to whether it was either necessary or desirable to take any action which would add a burden of cost to the electric refrigeration industry at this time. The industry is going strong. A new high record of sales has been made during a year when all other lines of business were below normal. The public has accepted electric refrigeration, and is not only satisfied, but highly delighted with the service rendered. Manufacturers and dealers are beginning to make money, the service problem is vanishing as a bugaboo for the manufacturer, independent service companies are taking over the job to the satisfaction to all concerned, and quality is being improved by the natural course of engineering development, rather than market resistence or other pressure. Proponents of short-term warranties feel that the three-year guarantee, which makes for a higher first cost, may prevent them from taking advantage of the opportunities for profit which seem to be at hand.

In answer to these arguments against the long-time guarantee, originators of the plan say that the influx of cheap machines made it necessary to set up a standard of quality, and that the buyer needs a "yardstick" by which he can differentiate between two machines which look very much alike.

## *Quality Products*

They say that the time has arrived for the manufacturer to classify himself in terms of a high grade or a low grade product. They argue that the public is entitled to the best value possible in this period of stress; that there is a market for worthwhile services at quality prices, provided better value is offered; and, in general, that the policies of yesterday are no longer adequate for the present day condition.

The whole question presents a strange mixture of engineering, manufacturing, merchandising, economics and public policy. In a previous editorial in the NEWS, it was pointed out that the wave of low prices which swept the industry during the preceding year seems to be past, and that the tendency is in the direction of higher prices and improved quality. At the same time new machines *are* coming on the market at lower prices than ever before. It remains to be seen which guarantee theory will prove to be the winner.

F. M. COCKRELL.

## *"Ours Makes 96 Ice Cubes"*

—*The New Yorker.*

# *Letters from Readers*

## *Early Subscriber*

Chicago, Ill.

Editor:

I wish to say that I would feel very lonesome if my subscription to your paper stopped, as I was one of the first fifty people who subscribed for it.

I want to say that ELECTRIC REFRIGERATION NEWS is about the best refrigeration paper that has ever come to my attention, and contains a great deal of valuable information.

Therefore, in order to be sure not to miss any of the issues, I am enclosing herewith check for $5.00, covering a three-year subscription.

Very truly yours,

GEORGE MONJIAN,
Pres., Chicago Refrigeration Service Co.

* * *

## *Utility Merchandising*

New Canaan, Conn.

Editor:

I note in your issue of March 25th, remarks about banning merchandising by public utilities. This hits a vital question for the legitimate electrical contractor dealer and all others merchandising in electrical appliances.

I, for one, appreciate the prominence you have given this subject in your magazine.

The one most important item of injury to the legitimate electrical contractor dealer is extremely unfair competition from lighting companies. This same condition is equally unjust to every user of electrical power.

Many lighting companies do a merchandising business at a loss, charge that loss off as promotional work, and pay for it out of proceeds of their monopoly plus the rate of net profit they are allowed by the public utilities commission in the state in which they operate.

This puts the legitimate electrical contractor dealer to a great disadvantage, as he has no one to turn to pay his loss. Such a condition, I believe, as a matter of common justice, should be illegal.

The second unjust situation caused by these tactics appears in the fact that lighting companies really do not pay this loss themselves. It is really taxed on every consumer of electrical power on their lines; and not only the loss is taxed to the customer, but also the percentage of net profit allowed by the commission.

Lighting company executives advance the argument that this promotional work by increasing their load reduces the rate; but that argument rings untrue, for the reason that they give the impression that the lighting companies are the only people competent to judge best qualities and promote sales.

The old argument that the public in general is not sufficiently intelligent or educated to realize what is best for them, and must have it forced on them by high pressure salesmen's methods, becomes very disgusting to the majority of the intelligent people of this country in these days.

Many lighting companies engaged in electrical merchandising have voluntarily done away with this condition without being forced to by law, but there are still many that have not.

In some states the heads of the lighting companies are very influential politically and are even able to name in advance who shall be the members of the public utilities commission which is to regulate their business for the benefit of the public, with the result that the business is regulated for the benefit of the lighting company instead of the public, whose interest should be protected by law.

I. B. WOUNDY,
President, the L. B. Woundy Co., Inc., Electrical and Radio Dealer.

* * *

## *Enjoyed First Copy*

San Francisco, Calif.

Editor:

I have received the first copy of your splendid magazine and enjoyed it very much.

Judging by the comments of those representing the refrigeration industry here, yours is the finest magazine or newspaper of its kind in the industry.

P. S. LUCAS
Editor, *Radio.*

* * *

## *Valuable Information*

Wilkes-Barre, Pa.

Editor:

The three or four copies of ELECTRIC REFRIGERATION NEWS that I received to date have certainly furnished us with some valuable information.

You can be assumed of cooperation from our company.

LOUIS L. POPKY,
Popky Refrigeration Co., Inc., Distributor of Lipman refrigerating machines and Taylor Freezers.

## *Our More or Less Department*

I would like to see more news about:

Frigidaire and less about G. E. and Kelvinator.—Harold G. Stern, San Francisco, Calif.

Kelvinator.—J. O. Selberg, Portland, Oregon.

Kelvinator.—John Romain, Jr., Syracuse, N. Y.

Majestic activity.—Fred L. Hoefner, Hooper, Nebr.

Copeland.—Carl W. Windel, Springfield, Ohio.

Copeland.—Adam A. Webb, St. Louis, Mo.

Majestic refrigerator.—C. H. Grau, David City, Nebr.

Copeland and Larkin coils.—Donald E. Weed, Cohoes, N. Y.

Servel Hermetic.—F. T. Thayer, Tarbelt Waters Co., Inc., Springfield, Mass.

Westinghouse refrigeration and sales organization.—Millard P. Boyle, Meadville, Pa.

Westinghouse refrigeration.—Westinghouse Electric Sup. Co., Fargo, N. Dak.

Majestic refrigeration.—Silas S. Streams, Indiana, Pa.

Majestic electric refrigerator.—Pendleton's Music Store, Shelby, N. C.

Frigidaire activities at the factory and in the field.—Walter Biehle, Perryville, Mo.

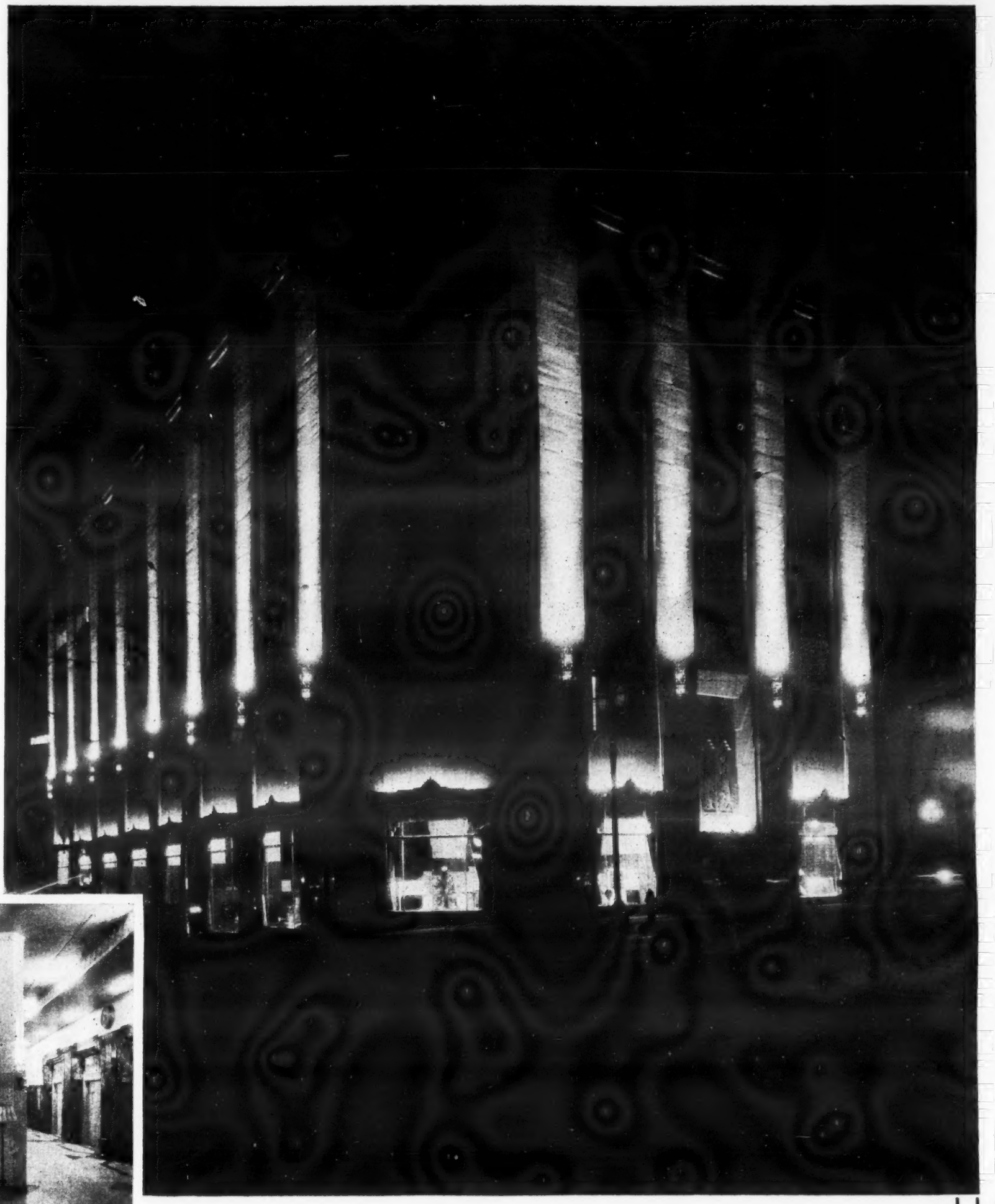
Servel.—Bennett Russell, Huntington, W. Va.

Information regarding Grunow's new set up; also if they and Grigsby-Grunow will be competitors.—L. J. Woltman, Liberal, Kansas.

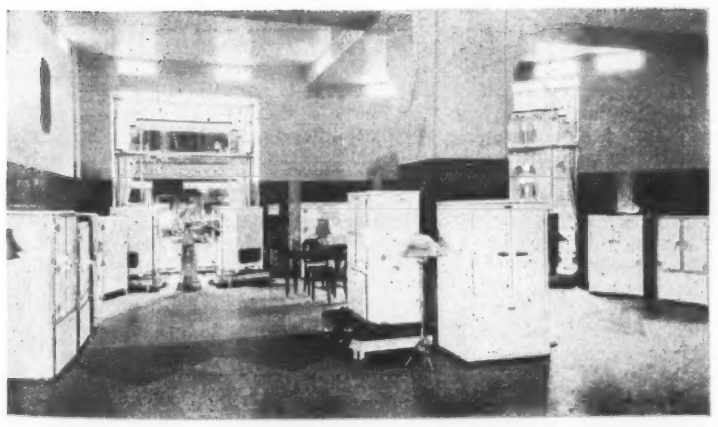
Trend of retailing by power companies.—Brownell & Kather, Williston, N. Dak.

Selling helps for salesmen.—Leo MacLean, Far Rockaway, N. Y.

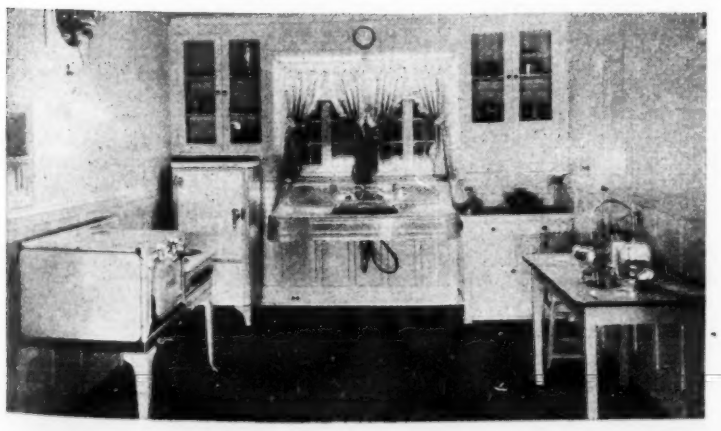
Very good, really, excellent, as is.—J. M. Schilling, S. & S. Products, Lima, Ohio.



View of Main Floor



Part of the Refrigerator Display



The Kitchen in Bungalow

We are illustrating several views of the New Northern States Power Company Building, Fifth and Wabasha Streets, Saint Paul.

In addition to the Kelvinator Line, the Northern States Power Company have found it to their advantage to sell

CABINETS BY

Seeger

SAINT PAUL

SEEGER REFRIGERATOR COMPANY

Madison Ave., Between 46th and 47th Sts. NEW YORK, N. Y.

655-57 So. La Brea Ave. LOS ANGELES, CAL.

Statler Building BOSTON, MASS.

660 North Wabash CHICAGO, ILL.

# THE EXPANSION VALVE

**Stories of Interesting PEOPLE in the Refrigeration Industry**

*By* GEORGE F. TAUBENECK

## Warren

Down in Atlanta, Georgia, is a man whose sense of humor is as broad as his frame, and whose sense of proportion is as mature as his gray hair.

His name is V. P. Warren, and for almost 30 years he has been building commercial refrigerators. Business interests him tremendously, yet he does not allow it to crowd out golf, joking, or the amenities of good fellowship.

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Beginning with an investment of $200, half of which was furnished by his father, he has built a business which is almost as completely self-sufficient in its sphere as that of Henry Ford.

Warren claims that 92 per cent of every Warren case is made in his own factory. He also supplies much of the raw materials used in the making of these cabinets.

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He owns his own timberlands, and on his own lumberyards he keeps more than two million feet of wood, chiefly oak, at all times. He has his own dry kilns, and his own sawmill.

From the sawdust and scrap lumber discarded by his woodworking shop, he gets fuel to supply his own power plant. He also pumps his own water, from a well 300 feet deep.

All of the hardware used on his cabinets comes from his own little foundry, where two men are kept busy pouring brass. His machine shops finish the hardware, after copper and nickel plating processes are concluded.

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Still more interesting is the fact that both paint and glass are fashioned at the Warren factories. The enamels and non-hardening cement used in the manufacture of Warren cases are made there from beginning to end. Glass is cut, beveled, mitered and silvered.

Paint-making is a separate industry within the Warren company. So is the making of mirrors. From both of these by-product departments comes considerable revenue.

---

Mr. Warren owns many acres of land around his factories, and is attempting to build up the section. Recently Kraft Cheese and A. & P. have erected good-sized structures on Warren properties.

Right now the Atlanta and West Point Railroad is building a station just across the street from the Warren office headquarters.

* * *

## Larkin, Harris, Shaw

L. C. Warren, brother of the president, is in charge of factory operations. J. D. Harris, a dark-haired, accommodating young man, is the watch-dog of the treasury, "when as V. P. Warren says, "there is anything to watch."

Associated with this group is L. U. Larkin, inventor of the Larkin coil. In another Warren plant these coils are made, under the painstaking supervision of R. F. Shaw.

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Like Larkin, who was the subject of comment in a previous "Expansion Valve" column, V. P. Warren enjoys delving into mechanical undiscovered country. Between the two, many novel ideas have been evolved.

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On present Warren cases are to be seen three recent fruits of this collaboration, a defroster, a dehydrator, and a device for removing outside moisture.

The latter is the simplest. It consists simply of a streamline reflector for the light globes, which are set at the top (outside) of the glass in the display section.

This reflector keeps the outside glass within a dozen degrees of room temperature, and thus helps prevent sweating.

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For removing moisture between inside glasses in the display section, a dehydrating machine has been developed.

This device is a box containing a small motor, an air impeller, and a tank of calcium—all of which is connected by tubing in series with the air chambers between the glasses.

When moisture appears in an air chamber, a dial is turned to the number which corresponds to that chamber. Air is then circulated through the chamber and into the calcium tank, which absorbs the moisture.

* * *

## Reeves, Smith

A typical Atlantan, who possesses the courtesy and gentility of the south, and the alertness and drive of the north, is J. B. Reeves, Frigidaire regional manager.

He is a small man with a great deal of energy. Well informed on the state of the industry at large, he is also thoroughly conversant with the particular and peculiar problems of his region. Being able to relate these local and overall spheres of knowledge is one of the secrets of the results he is getting.

His men all like him, and with reason. The interest he takes in each, and the understanding he lends to their problems, make him as much a personal friend as a business superior.

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Associated with him is V. C. Smith, who is both a research man and a pep infuser.

Ferreting out information and statistics is a task rarely given to the voluble, volatile type which can inspire salesmen, but Smith performs both functions with equal ease.

* * *

## C. T. Baker

C. T. Baker, consulting engineer located at Atlanta, has a good one to tell in re this patent suit business. It runs something like this:

Two manufacturers had been fighting each other bitterly in the courts over an alleged infringement of a patent one held. They had never met, until one day they were introduced at an A. S. M. E. meeting. After a bit of convention conviviality, the suing manufacturer put his arm around the defendant in the litigation, and declared:

"John, if I'd known you were such a fine fellow, I'd never have sued you."

Answered John:

"Jim, if I'd had any idea that you were such a great guy yourself, I'd never have infringed upon your darned old patent."

So the case was settled out of court. Point your own moral.

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## Jamerson, Clark

Add to the list of electric refrigeration sales managers who are built on the football player scale, H. C. Jamerson, of Frigidaire.

Already we have mentioned the size and aggressive bearing of Sam Vining of Servel, H. I. Burritt of Kelvinator, Mike Mahoney of General Electric, and L. G. Lindsay of Trupar.

Jamerson should have the full rights, privileges, and benefits accruing to these accredited members of the Ima Strong Guy fraternity.

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Size is always impressive. When one adds to it a big voice and a convincing manner, as does Jamerson, one can sell a garage to a man who has just bought one ticket in an automobile raffle.

L. A. Clark, of the Frigidaire sales promotion department, is now riding the circuit with Jamerson. He is tall, smiling, and persuasive.

One is impressive, the other winning. A good team.

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## H. A. Pendergraph

In the production department of ELECTRIC REFRIGERATION NEWS we keep standing a 24-pt. head, which we dig up and run every year. The head reads:

GEORGIA POWER CO.
GOES OVER THE TOP
IN SALES CAMPAIGN.

They never fail us out in Atlanta, and the head is almost as much an institution around the NEWS office as "STAGG FEARS PURDUE" has been on sports pages for the last two decades.

The man who has been largely responsible for the success of the Georgia Power Co., as a merchandiser of electric refrigeration, is H. A. Pendergraph, merchandising manager.

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After a chunk of an afternoon spent in Pendergraph's office, the Valve was unable to dig up any Magic Formula, any Open Sesame, which Pendergraph owns.

All his company does (he claims), is set up a big quota, play fair, and go out and sell a lot of refrigerators. In other words, the way to sell is to go out and sell.

On the wall of Pendergraph's office is a big graph, on which is plotted the curve of appliance sales by his company made in the last five years.

In 1925 the Georgia Power Co. sold $524,271.24 worth of domestic electric appliances. The curve for that year is almost a straight line.

Aggressive merchandising activities were begun the very next year for the first time. Immediately the curve bounded up and down like a horse in a steeplechase. In 1929 $2,431,340.80 worth of appliances were merchandised.

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Pendergraph is large, poised friendly, and honest.

He is unable to understand the recent legislative outbreaks against central station merchandising. No action of that kind will be taken in Georgia, he thinks.

"Even if this business should go—and I'm convinced there's no likelihood of it—I shan't weep," he smiles. "It's been a great life so far, and I've enjoyed every minute of it."

And there, possibly, is the secret.

* * *

## Stuckey, Woodroof

Quietly and leisurely pursuing the Unknown, two happy men are devoting their lives to the promotion of Georgian agriculture. Their names are H. P. Stuckey and J. G. Woodroof.

Nationally they have become known for their studies in the quick-freezing of fruits—which led Tom Huston to inaugurate his peach-freezing business.

In Georgia they are known for a great many other contributions toward the advancement of farming. At home they are known for their very human qualities.

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They live on the Georgia Experiment Station farm, which is located just outside of Griffin.

Their income is assured, their task is mapped out, and they proceed unhurriedly in their research projects, knowing that their labors are helping to build mankind's ever-increasing store of human knowledge.

Perhaps that is why they are so happy and so successful.

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Stuckey is a fatherly, agreeable sort of man, who seems interested in everything and everybody.

Graying short hair he has, with sympathetic glistening eyes, and a voice which invariably seems to touch an answering chord within those who talk with him.

Woodroof is young, dark, tremendously enthusiastic, and as fascinating as he is eager and alive.

* * *

## W. D. Alexander

W. D. Alexander, G. E. refrigerator distributor in Atlanta, is unshakeably convinced of the fire-defying qualities of the product he merchandises.

One day a salesman of steel safes came into his office. After giving Alexander's safe the once-over, the salesman pronounced:

"That safe will never withstand the ravages of a fire."

"All right," answered Alexander agreeably, "I'll put my records in a refrigerator."

And he sold the safe salesman a G. E. right then and there!

* * *

## Tom and Bob

At the Tom Huston plant in Columbus, Ga., there are two desks belonging to important men in that organization. The sign on one reads: "Bob Flournoy." The other simply says: "Tom."

The Huston organization is like that. There isn't a "Mr." in the place.

Huston is a man of relentless energy, inexhaustible ideas, and effervescing temperament. Flournoy, the sales manager, translates Tom's myriad merchandising schemes into terms of people, and puts them across.

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Originally a manufacturer of machinery for hulling and skinning peanuts, Tom became imbued with the desire to merchandise these goobers.

In a few short years he has built up a peanut-marketing business which is second only to that of the Planters organization, and which leads all comers in Tom's specialty—individual bags of peanuts.

Tom does not sell in bulk. He sells only his patented long bag of "toasted" peanuts, and peanut confections.

These products are merchandised by exclusive distributors, who visit each of their outlets once a week and destroy—before the eyes of the retailer—any unsold packages. Freshness is thus guaranteed.

The "toasted" peanuts are hulled, skinned, cooked, and bagged by the most modern of line production methods. All waste is utilized in by-products.

Everything is patented—machinery, paper bags, sealing devices, triangular trademarks, and whatnot.

There is even a printing plant which contains, among other equipment, two five-color presses. "Tom seems to think of everything," is a common Southern attribute.

* * *

## Latin Revolutions

G. Lauter, foreign sales representative for Servel Sales, Inc., has returned from South America for a brief visit at the Servel factory and main offices in Evansville, Indiana, writes contributor W. Paul Jones, Servel advertising and sales promotion manager.

Four revolutions are listed among Lauter's experiences since he was last in the United States, nearly three years ago.

One of these came while he was covering teritory for Servel, another was in Buenos Aires, and two occured while he was in Honduras.

"A revolution usually comes so suddenly that it is almost over before you fully realize what all the confusion is about," declares the Servel globe-trotter. "When we hear a rumor of a revolution in those foreign territories, we don't usually pay serious attention to them, for you hear such rumors often.

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"I was with Mrs. Lauter at a theater on the night of September 6, 1930, when the first shots were fired in a rebellion in the Argentine. We were living in Buenos Aires at the time, and had heard rumors of the outbreak, but had not expected it so soon.

"We immediately left the theater when the shooting started, and Mrs. Lauter insisted that we hurry to Caballitos, a suburb of Buenos Aires, where we had left the children with friends.

"A good idea, but—in order to get there we had to cross the Avenida de Mayo to get to a subway, and all the fighting at this particular moment was taking place on this street.

"However, we dashed through the mob and arrived safely at the subway entrance, where we proceeded to the spot where we had left the children. This particular outbreak was very destructive. The Capitol building was riddled with shell fire, and several hundred casualties resulted."

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Lauter was on the reception committee when President and Mrs. Hoover arrived in Rio de Janeiro, Brazil, in December, 1928, prior to his inauguration, and chatted with Mr. Hoover on various occasions during the latter's stay in that city.

"There is one thing that seems most difficult for me to accustom myself to," said Mr. Lauter, "and that is getting used to the American way of eating."

"After being away for several years in foreign territory, I have been accustomed to eating very light when I first arise, sipping a cup of black coffee ,with a piece of bread, and then at 11 o'clock having my regular breakfast, which is a full meal. Tea in the afternoon and then an evening dinner at 7:30 concludes the South American meal series.

"Natives consume a great deal of coffee in Brazil, and the expression, 'Will you have a drink?' usually refers to a cup of coffee, of which many natives consume 18 to 20 cups a day."

Volunteers for foreign service will kindly don bullet-proof vests, present a doctor's certificate certifying that they can carry their coffee like gentlemen, and report to Sam Vining any morning before breakfast.

* * *

## Carpe Diem

Like Topsy, "who just growed," R. O. Andrews, owner of a completely electrically equipped market in Tryon, N. C., "just became" a Frigidaire dealer, writes contributor Roy Baird of that town.

Some six years ago, when there were less than 100,000 electric refrigerators in the country, a customer asked him if he knew where he could get "one of those new-fangled electric ice-boxes."

Recalling Caesar's motto, "Carpe Diem," (seize the opportunity), Andrews declared he was going to have one in his store in just a day or two.

Thereupon he called on a Frigidaire salesman in Saluda, the nearest representative, and they made the agreement to split the commission 50-50 if there was a sale.

Before a small-town crowd of skeptics the machine was plugged in. Andrews was a little doubtful himself. It worked, and that afternoon not only that one, but three were sold on the spot. Before there were any other dealers in town he had a lead of 60 machines sold and installed.

# Westinghouse Refrigerator Sales

## *prove value of a* Great Name *and a great product to* Dealers!

The public demand for Westinghouse Refrigerators in homes and apartment buildings increases every minute. National and local advertising featuring Westinghouse "Completely Balanced" design creates thousands of prospects. Dealers approve the Westinghouse Franchise as a sure profit-maker. Here is what it offers:

**1** A name (Westinghouse) that means *everything* in electrical appliances, to millions of families.

**2** A "Completely Balanced" electric refrigerator. No features over-emphasized for mere spectacular effects on the sales floor—at the expense of reliability, operating cost or long life.

**3** Many outstanding engineering improvements, including the exclusive "Automatic Watchman" that prevents a burned-out motor.

**4** Beautiful, custom-styled cabinets, with the lines of fine furniture, and a good-looking, *usable* Buffet Top.

**5** A complete range of sizes from 4¼ to 17 cubic feet, priced from $180 up, f. o. b. factory.

**6** A powerful National Advertising Campaign with complete local tie-up merchandising plans.

**7** An improved, horizontal-type, hermetically sealed Quiet Mechanism that has a record of service-free performance unsurpassed in the industry.

**8** A complete line of other Westinghouse appliances for the modern electrified home, that offers unlimited possibilities for profitable expansion of your business.

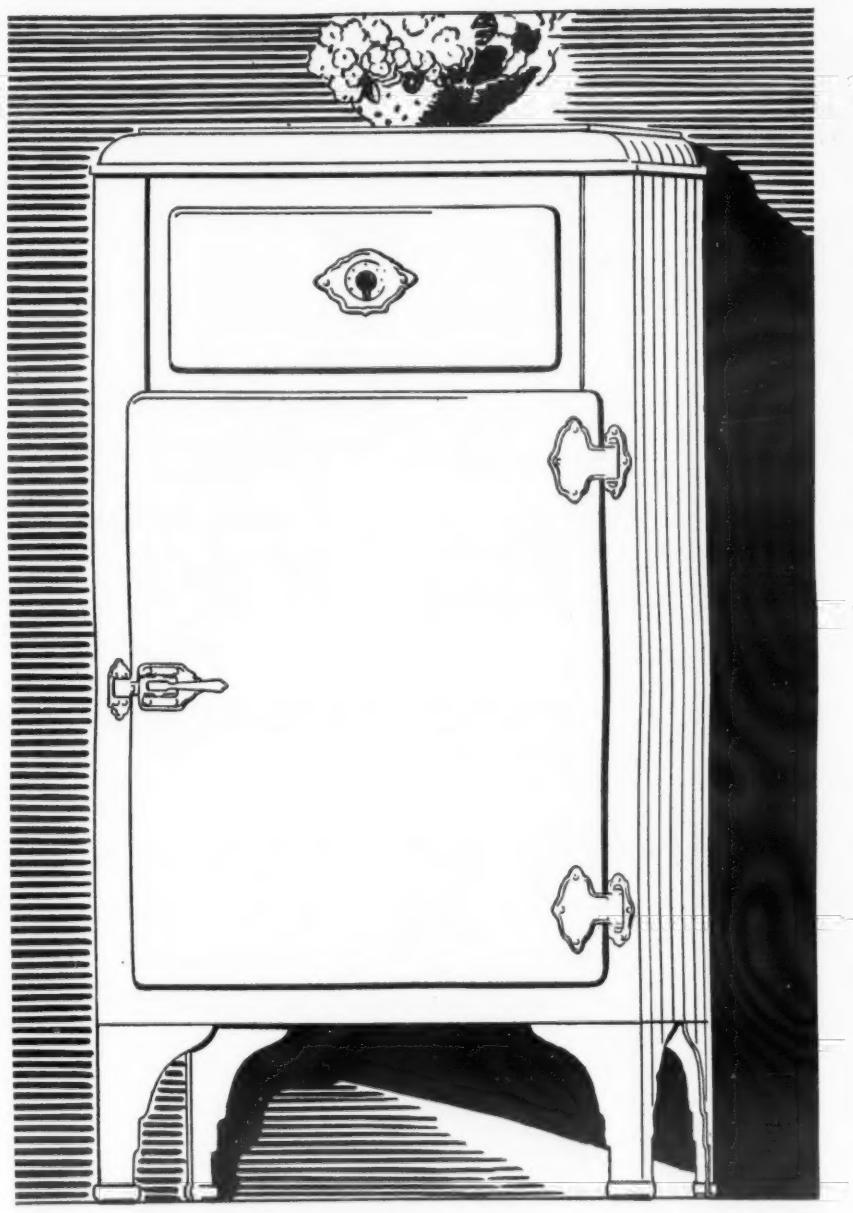
*The biggest refrigerator season is just ahead. Mail the coupon below or write or wire at once for details of the Westinghouse proposition*

WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY
*Merchandising Department* - Mansfield, Ohio

# Westinghouse

"COMPLETELY BALANCED"

## REFRIGERATOR



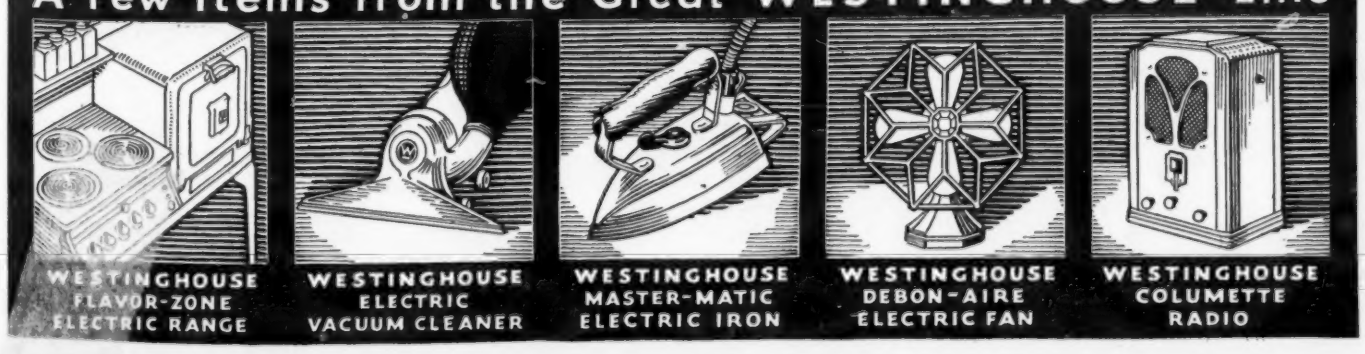
Superbly Styled custom cabinets! Improved horizontal type, forced-draft, hermetically sealed Quiet Mechanism—overhead, yet completely concealed! The Safety-Zone Food Compartment!... and many other scientific contributions to modern refrigeration for the home.

*The small family or apartment size.* Capacity 4¼ cubic feet. Furnished with vegetable or dry storage drawer bin base, 9½ inches high, at slight extra cost. Steel sub-base 1¾ inches high, optional. Can be built in with kitchen cabinets. Retail price only $180. F.O.B. FACTORY.

**$180**

WESTINGHOUSE *Programs over* KDKA, KYW, WBZ, *and associated stations of the* N. B. C. *chain are helping retailers of* WESTINGHOUSE *products to sell more merchandise. Tune in each Sunday evening.*

## A Few Items from the Great WESTINGHOUSE Line




## QUICK ACTION COUPON

WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY
*Merchandising Department*, Mansfield, Ohio

Please send a representative with details of your dealer proposition on refrigerators. Also information on other items checked below.

*Name*.....

*Address*.....

*City*..... *State*.....

☐ RADIO ☐ RANGES ☐ VACUUM CLEANERS ☐ FANS ☐ APPLIANCES

# LARGE SALES CLOSED BY DALLAS DEALERS

DALLAS, TEX.—The two new Young Men's Christian Association buildings, now under construction in this city are to be equipped with Frigidaire systems.

The downtown branch building will use a multiple water cooling system, made of seven compressors and 13 tanks. Kitchens will have three Frigidaire compressors, eight coils and one W4 Frigidaire cabinet.

In the Oak Cliff branch a water cooling system consisting of one Frigidaire compressor and three cooling tanks, is being installed. Also one Frigidaire compressor for the soda fountain and one individual unit are being placed in operation.

Both cooling systems were sold and installed by the Brackeen-Hughes Co.

Holcomb & Hoke Co. has established new sales and showrooms at 2021 Main St. here. Herbert Chandler, who has been with the firm for the past seven years, will manage the Dallas branch.

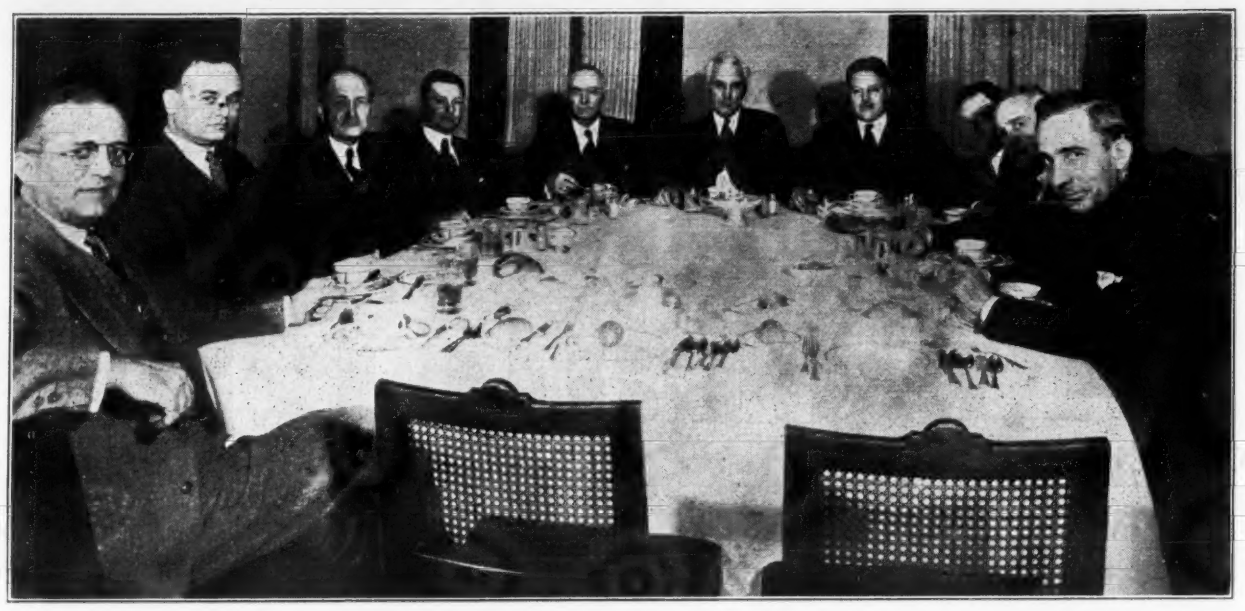
Mr. Chandler reports the recent installation of a nine-foot Holcomb & Hoke delicatessen counter in the Fruit Basket, a new fruit store and delicatessen shop opened in the loop district.

The Harrison-Smith Co., Kelvinator distributor for Dallas, has just completed the installation of a Kelvinator water cooling system in the Post Office building here.

Consisting of five multiple Kelvinator water cooling units, each unit operating five drinking fountains, make up the system.

A spring training course for Harrison-Smith salesmen and service men was recently concluded. E. E. Brammer of the Kelvinator factory was in charge of the domestic sales school in which 25 men received sales training. J. W. Granfors had charge of the school for service men with thirty in attendance.

# *Speaker at Newark Refrigeration Show Entertained*



Congressman Charles A. Eaton (sixth from left), one of the chief speakers on the program at the recent Essex Electrical League electric refrigeration show in Newark, N. J., was entertained at a dinner by Philip H. Harrison, General Electric refrigerator distributor (right of Congressman Eaton), who was chairman of the committee on arrangements. Attending the dinner were also representatives of local refrigeration companies.

* * *

# HOME ECONOMISTS TALK

NEWARK, N. J.—Under the auspices of the Essex county committee of the Electric Refrigeration Bureau, a series of lectures on home economics and food preservation was given at the Public Service auditorium here April 9, 10, and 11. All makes of electric refrigerators were exhibited during this meeting.

The committee in charge of this exhibit and lecture series was headed by Philip H. Harrison, and included William M. Halsey, Robert Frieder, Samuel Scott, T. E. Babson and T. A. Power.

Thursday afternoon the session was opened with a half-hour program of the Newark Evening News Housemusic. Miss Grace Pennock of the Delineator Institute gave a talk on "Refrigeration and How to Use It," followed by a display and demonstration of refrigerated foods, with Miss Ada Bessie Swann presiding.

Mrs. Edna A. W. Teale, director of makers Club, spoke on "Adventure in Foods" Friday afternoon. At the evening meeting Congressman Charles A. Eaton discussed the subject, "What Electrical Services Have Done for the Homes of America."

Miss Ruth Barber, a food expert for the *New York Sun,* was the first speaker Saturday afternoon. Her subject was, "Food Preservation and Its Value to Good Health." At 3:30 P. M. Ada Bessie Swann talked on "Chills and Fever—Foods Have Them."

The last of the series of lectures, "Food and Its Importance to the Health of Mankind" was given by Mrs. Christine Frederick Saturday evening.

# WESTINGHOUSE MEN MAKE SALES PLANS

HOPKINSVILLE, KY.—Sales representatives of the Kentucky-Tennessee Light and Power Co., the Tafel Electric Co. of Louisville and the Westinghouse Electric and Mfg. Co. met at the Hotel Latham here, April 7 to discuss plans for selling the Westinghouse refrigerator.

The 35 salesmen attending listened to talks by officials and were shown slides picturing the process of manufacture and assembly. Plans for the spring campaign were discussed.

Among the speakers were: Meredith McKinney, new business manager; Albert Wettstein, district manager; Kenneth McIntyre, all of the Kentucky-Tennessee Light and Power Co.; John S. Kelley, secretary-treasurer; William McKinney, district manager; Bob Board and Doc Ellis, all of the Tafel Electric Co.; Vic Chambers of the Westinghouse Electric and Mfg. Co.; Joe Anderson, refrigerator representative; Tom Mason, sales promotion manager of the Tafel Electric Co.; Ben Cocke, manager of the Kentucky-Tennessee Light and Power Co. at Elkton, Ky.; E. L. Boyd and H. L. Miller, both salesmen of the Kentucky-Tennessee Light and Power Co.

## PHILADELPHIANS INSPECT REFRIGERATORS AT SHOW

PHILADELPHIA—Dealers and distributors are showing a number of models at the Electric Refrigeration Show, which opened here Monday, April 20 and closes Saturday, April 25.

The show is sponsored by the Electrical Association of Philadelphia which is cooperating with the Electric Refrigeration Bureau of the National Electric Light Association in its plan to sell 1,000,000 refrigerators this year.



# Senator Copeland Emphasizes Need for Food Preservation

NEW YORK CITY—"Of all the plans that can be laid to keep well, proper preservation of food is by all the odds the best one. First and foremost in the promotion of the public welfare is preservation of the food supply of the nation. From infancy to old age, this is the most important factor in human life, and those industries and those commercial concerns that give knowledge to the public and then supply the individual purchaser with health-promoting and life-saving devices are in every sense public benefactors."

In these words Dr. Royal S. Copeland, United States senator, summed up his address on "Food Preservation and Modern Refrigeration" before the Electrical Association of New York at its recent monthly luncheon meeting at the Hotel Astor.

More than 800 members and guests were present, including representatives of all the largest manufacturers of electric refrigerators and many of their local distributors, who had arranged for an exhibit of refrigerators in the lobby of the hotel in connection with this meeting.

Clarence L. Law, president of the association, presided and explained how this meeting inaugurated the activities of the association in connection with modern refrigeration and tied in with the nation-wide program on this subject being sponsored this year by the National Electric Light Association.

"We are spending millions of the public's money to protect the food and water supply of the nation," stated Dr. Copeland. "When milk and raw foodstuffs enter the home they have been inspected and guarded from their source, no matter how remote, right up to your doorstep.

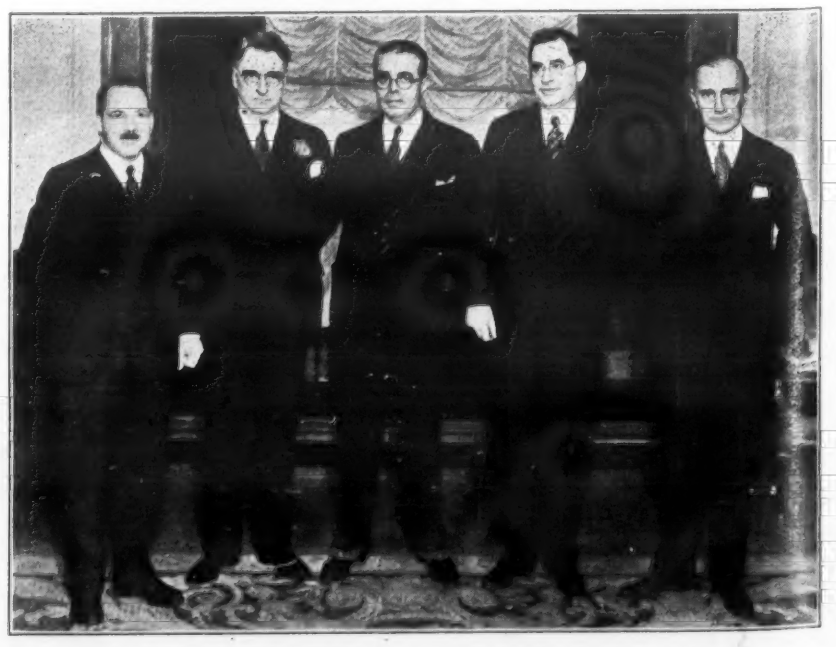
"What happens to the food after it crosses the threshold of your dwelling? I regret to say that the importance of scientific household refrigeration is not appreciated by the average American family.

"There are certain facts relating to human welfare that somebody in every household should know for a certainty. One of them is the question of what temperature is required to keep our foods safe for human consumption.

"Beyond all question of doubt, the scientists have determined that any refrigeration device is a failure unless it can maintain a constant temperature of between forty and fifty degrees. It makes no difference to me whether you use ice or power, gas or electricity, but you are trusting to a broken reed if the temperature is not kept at 50 degrees or less.

"I doubt if in any other field has such progress been made as in the application of electricity to the needs and happiness of the human family," Dr. Copeland stated. Except for what we have gained in this matter, we would be as far back in human comfort as were our great grandparents.

"As a matter of fact, in the item of refrigeration alone, the research laboratories have imparted to us the secret of longer lives and freedom from illness while we do live. What a man is depends largely upon what he eats and the quality of his food is far more important than its quantity."



Representatives of the electrical industry attending the meeting were (left to right): C. L. Law; Senator Royal S. Copeland; A. J. Marshall and Dr. G. W. Allison, both of the N. E. L. A.; and H. P. Liversidge of the Philadelphia Electric Co.

# Refrigeration In Rapid Growth Phase of Progress Curve

By Paine, Weber & Co.

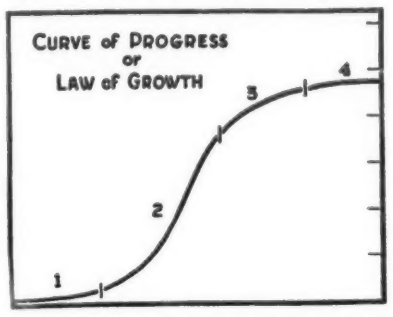
CURVE OF PROGRESS: Important as are technical conditions within the market itself from a trading or short-term standpoint, *major swings* of stock prices are controlled by fundamentals, i. e., underlying economic factors which produce business cycles. Interest rates, credit and banking conditions, reserve policies, status of key industries, commodity prices, agricultural situation, and a maze of other variables, constitute this background of fundamentals.

But behind these phenomena of business cycles lies a force ever more potent in its influence over *longer-terms stock price movements*, although slower to make itself felt. We refer to the curve of progress, or law of growth, illustrated in the chart below. Various industries have different rates of long-term growth, yet all tend to trace the same sort of generalized curve from time of inception to complete development. In due course, they pass through these four distinct phases (see chart):

(1) Period of Experimentation,
(2) Period of Relatively Rapid Expansion,
(3) Period of Diminishing Rate of Growth,
(4) Period of Stability (or actual retrogression.)

### Population Growth

Population growth of country itself has traversed a similarly shaped curve. According to computations by well-known mathematicians, population is in what we would call latter stages of phase 3 of growth curve. Since 1860, growth of population has progressed at a steadily diminishing percentage rate. Many of our major industries are also in phase 3, while a larger group lie in




Above curve is designed to illustrate phases through which each industry passes in pursuing its long-term trend. Segment (1) represents period of experimentation; (2) period of rapid expansion; (3) period of diminished rate of growth, and (4) period of stability, or actual retrogression. (Chart and some of accompanying comments are taken from "Looking Ahead with Common Stocks," through courtesy of the author, Mr. Pierre R. Bretey, of Wetsel Market Bureau, Inc., New York.)

last phase, No. 4. Electric utilities and electrical equipments fall mostly toward end of phase 2, though some of them have probably already entered phase 3.

### Duration of Periods

Duration of these several periods of time varies with type of business. Moreover, as result of the business cycle, temporary departure from curve of growth is the rule rather than exception; this tends to obscure true rates of long-term growth, especially in periods of depression when sharp setbacks occur.

But after bottom of cycle has been passed, industries in phase 2 of progress curve show steepest uptrends in inexorable return to prosperity segment of business cycle. Industries in first half of phase 3 are also among earliest to regain normalcy.

In utilizing the element of growth, however, careful attention must be given to changes in consumptive habits. For example, a number of basic commodities have registered a decline in per capita consumption during past two decades. Among these are lumber, anthracite and bituminous coal, corn, wheat, oats, beef, potatoes, apples, tea and hides.

On the other hand, increased per capita consumption has been attained by many commodities, including aluminum, copper, tin, cement, natural gas, petroleum, milk, sugar, coffee, tobacco, cocoa, cotton, wool, silk, rayon, rubber, fertilizers, sulphur, steel and iron.

Consideration should also be given to the development of substitute articles, tariff revisions, and fundamental changes in distribution and production methods, etc.

Below are shown our present classifications of major industries according to status along curve of progress. (Necessarily, such groupings are valid only in a general way, and as applied to industries as units. Subdivisions of some of the larger industries, as chemicals for example, might easily be shifted forward or backward one step.) It should be borne in mind that these groupings refer to strictly *long-term industrial trends* and not to current cyclical positions of various industries.

### Refrigeration in Phase 1

1. Some illustrations of industries in first phase of progress curve are: Television, metallurgy (new alloys, etc.), new chemicals, new drugs, new sources of power, etc.

2. In period of Rapid Expansion:

| | |
|---|---|
| Aircraft | Nickel |
| Aluminum | Natural Gas |
| Chemicals | Radio |
| Electric Equipment | Rayon |
| Electric Power | Refrigeration |

Aircraft industry represents typical example of this phase of progress curve. Electric power and electric equipment businesses are about to enter next phase.

3. In period of Diminishing Rate of Growth:

| | |
|---|---|
| Automobiles an Access. | Drugs |
| Building and Constr. | Fertilizers |
| Cement | Foods |
| Chain Stores | Machinery |
| Cigarettes | Motion Pictures |
| Communications | Paper |
| Copper | Petroleum |
| Office and Bus. Equip. | Silk |

Chain stores, cigarettes, automobiles, and some others, are probably close to phase 4. Some of machinery sub-groups could reasonably be placed in phase 2, while others belong in phase 4.

Under present conditions, the oil industry might be considered in last phase of progress curve, but in course of time it is expected to justify our present classification.

### Quick-Freezing in Phase 2

Some branches of food industry, such as quick freezing process, fall within phase 2. Potentialities of foreign sales of office and business equipment bring this industry close to phase 2.

4. In period of stability:

| | |
|---|---|
| Apparel | Meat Packing |
| Cigars | Railroads |
| Coal | Rail Equipments |
| Cotton and Woolens | Shipping and Shipbldg. |
| Flour Milling | Steel and Iron |
| Furniture | Sugar |
| Leather and Shoes | Tractions |
| Lumber | |

Some of these, as lumber and tractions, have passed stability phase and are in actual retrogression. Certain subdivisions of others are still expanding, as for example, branches of the steel industry.

Constantly increasing use of wheeled vehicles is basic reason for failure of shoe consumption in United States to keep pace with population growth. Similarly, competition from substitute articles and services accounts for stoppage of expansion in most cases.

### Best Stock Purchases

Long-pull speculators who base their selections on fundamental considerations will find best purchases among stocks representing industries which may reasonably be classed in phase 2 or early part of phase 3 in curve of progress.

This is particularly true in depressed times like present, when laws of growth seem to have been suspended; *the latter will assert themselves anew, when pressure of current business recession is lifted.* Of course, some industrials in phase 4 can and will continue to produce a satisfactory dividend income for years, but more rapid appreciation opportunities will be found in other groups.

## BOSTON BUREAU MAINTAINS REFRIGERATION EXHIBIT

BOSTON—To increase the interest in refrigeration here the Massachusetts Refrigeration Bureau of the National Electric Light Association has set up a permanent exhibit on the street floor of the new Edison Electric Illuminating Co. building at 181 Tremont St.

A number of refrigerators supplied by local distributors are displayed in the exhibit. As a headliner a Westinghouse Televox man is being used to attract large crowds.

## DOSTAL IS NAMED MANAGER OF WESTINGHOUSE OFFICE

CHICAGO—Charles A. Dostal has been appointed regional sales manager of the new merchandising department of the Westinghouse Electric & Manufacturing Co. here. Mr. Dostal was formerly middle western manager of the Westinghouse Lamp Co., and more recently, vice president and general sales manager of the American Flyer Mfg. Co. in Chicago.

Mr. Dostal will supervise the sale of refrigerators, radios, and household appliances in the Chicago, Pittsburgh, and St. Louis districts.

# ECONOMIST BELIEVES LUXURY APPEAL BEST

By Christine Frederick*

WHEN woman began taking a place in business, there was a cry of protest because she brought with her the charms that are distinctly out of place in a business office. She was a creature of curves and delicacy.

To make herself suitable for business life, however, she took off her bustles, cut her long hair, shortened her skirts, and proceeded to eliminate her curves and femininity so that she could substitute in their place as near as she could a figure like her brother's. She became flat-chested and slim, and wore clothes of most severe cut.

There is a swing now in the opposite direction. You see it in longer and more voluminous skirts and accentuating of the curves of a woman's figure. Women are becoming feminine again, eager to make the most of the charms that so long have been hidden.

Women who went into business are learning that the pay check, after all, was not a solution to their happiness. What is happening now is a "Back to the Home" movement, and therein lies the future prosperity of business.

I think the popularity of the radio is good evidence of the "Back to the Home" movement. Here is both education and entertainment, in surroundings more cozy and congenial than night clubs or dance-halls.

And after all home is the safest place. If I were to choose between three meals a day in the home or a boyish figure and a pay check, I'd take the three meals.

The old gingham apron is gone but in its place is the colorful and exquisite lounging pajama. Lounging pajamas are helping to make housekeeping more attractive.

What girl wouldn't rather be fussing around a cozy home in a gay suit of lounging pajamas waiting for her handsome husband, than sitting at a cold desk in a business office?

The "Back to the Home" movement is a made-to-order opportunity for business; but what is business going to do with it? So far business has availed itself little of selling to the home. There are more than 1,600 washing machines on the market and not a decent dish washer.

Business has made no serious effort to find out what women need and want. Too many gadgets have been invented and offered for sale, without an understanding of the fundamental requirements for enjoyable home-making.

Can you imagine a woman being interested in a bean slicer or a duck press when the hardest part of her work is dish-washing? It is a pleasure to make a meal, but all that pleasure is lost in the thoughts of the dishes that will need washing. Much time and effort has been spent in minimizing attention to the heating plant, but what is attention to the furnace once a day compared with washing dishes three times a day.

The average sum spent for furniture is six dollars a family. The furniture people can't understand the reason for it, but the answer is simple. A chair or a table or a lamp is sold as a chair or a table or a lamp, and not in the beauty or the comfort or the general happiness they will add to the home. Again this shows an utter lack of attention to the desires or needs of the housewife.

### Luxury, Not Utility

The practice today is to sell home appliances as utilities or labor-saving devices. I want to suggest doing the job the other way around: sell them as luxuries. The automobile was sold as a luxury, as a source of pleasure.

A woman tells the gas attendant at the station to "fill 'er up" and pays without a murmur. When she comes home and finds her house gas bill for the month in the same amount, she grinds her teeth. She thinks there's something wrong because she has bought that gas heating equipment on the idea of economy.

An ice-box and an electric refrigerator do the same job, namely, keeping food fresh. With an electric refrigerator, however, you can freeze cubes and prepare more tasty dishes than in the old-fashioned way. You have something modern which is really a luxury in the house.

You pay 10 times more for it than an ice-box. You have something that cannot be regarded as an economy in comparison with the old method, but it is much more convenient and more fraught with possibilities. Consequently, I believe the idea of luxury can be sold more readily and more properly than the idea of utility.

Let me add some thoughts to prove my point. You'd much rather take the money for the month's coal bill and go to Bermuda than pay the coal man. One is a necessity of the house and the other is a pleasure of the heart.

You go out and make "whoopee" for something that becomes a mere memory, and perhaps let the dentist's bill wait. You pay easily for pleasure and hard for necessity.

The idea that we are human beings rarely seems to dawn on the people who sell to us. In a store the clerk takes our order, wraps the parcel, and lets us go out the door without once considering that we have desires, or wants or problems. I call this system "Robot Retailing," and I believe that is why the small specialty shop is gaining in favor.

This type of store is adopted the European attitude, where the customer is the most important person on earth at that particular moment and receives personal attention. The larger American stores fail to get the human touch.

We have been led to believe that our prosperity is due to mass production—the making of one thing in volume in a standard size. I say that the cause of prosperity is mass consumption, the buying on a large scale by the consumer. This has been proved in the depression, in which we are finely geared for mass production but have no mass consumption.

If you are an advertising man, a salesman or business executive and want to do more business in 1931, look into the heart of the woman in the home and learn her problems. High pressure selling no longer will move her to action, but sound merchandising, based on her ideas of housekeeping, will.

*From speech made before Adcraft Club of Detroit.

## *Sterling Co. Runs Hot Room Refrigerator Tests*


Power consumption, temperature readings, running time are illustrated in this window display





## WESTINGHOUSE UNDERWAY IN BIRMINGHAM

BIRMINGHAM, ALA.—Westinghouse has invaded this city, with the appointment of Moore-Handley Hardware Co. as refrigerator distributor.

Dealers which were also announced are: The Modern Home Appliance Co., 1917 Eleventh Ave., South; Jefferson Hardware Store, 515 Nineteenth St., Ensley; Morton Hardware Co., 217 North Nineteenth St., Bessemer; Five Points Hardware Store, 1915 Eleventh Ave., South; Woodlawn Hardware Store, 55th Pl. and First Ave., North; Spradley Hardware Store, 2904 North Twenty-Seventh St., North Birmingham.

## SPRINGFIELD COMPANIES REPORT SALES

SPRINGFIELD, ILL.—Twelve General Electric refrigerators have been installed in the apartment building owned by W. J. Leaverton, of this city, by James & Co.

In the F. A. Mahoney Grocery Store, the Mays Meat Market, and the University Club, Copeland equipment was recently installed by A. Dirksen & Son. The Mahoney store purchased a P-43 refrigerator, while the University Club was equipped with a P-44 model.

## SEEGER BRANCH MOVES

CHICAGO—The Chicago Branch of the Seeger Refrigerator Co. has moved to larger display rooms at 660-678 North Wabash Ave., at the corner of Erie St.

The rooms contain a large display of every variety of Seeger cabinet, from the apartment house model to the large coolers for butchers, hotels, restaurants, hospitals, and clubs.

# DISTRIBUTOR NAMES 300 RETAIL OUTLETS

KANSAS CITY, MO.—The Sterling Radio Co., wholesaler of the Majestic refrigerator, has appointed 300 dealers in the territory of Kansas and western Missouri.

This expansion, according to H. E. Drier, treasurer of the company, has been effected by showing the dealer what the refrigerator will do during the summer by means of the hot room efficiency test now being made, by meetings with dealers, by emphasizing the three-year guarantee, and by assisting dealers in demonstrating to housewives.

A room, panelled in double glass and tightly closed, has been erected on the third floor of the company's offices to demonstrate a Majestic model 150.

The room is electrically heated to a temperature ranging from 85 to 110 deg. F., and an accurate record is kept of consumption of current, running time and box temperature in the various room temperatures.

The testing board, where each result is automatically recorded, is arranged on the front of the heated room. It is equipped with a Sangamo watt-hour meter.

### Daily Readings Recorded

This meter shows the amount of electricity consumed. The daily consumption is indicated on the chart at the right. A Bristol model 311 double bulb recording thermometer shows the temperature inside the box (green pen) and room temperature (red pen). Daily temperature averages are listed in the chart on the right.

The Telechron clock is connected with the fan motor so that it runs when the unit runs, showing the number of hours the refrigerating unit runs each day. Daily total is shown on the daily progress chart.

By multiplying the number of kilowatts consumed by the local charge per kwh. the dealer can compute the cost of maintaining the refrigerator in the hottest weather.

"This is a real summer test," Mr. Drier said, "for even during our recent March blizzard the room temperature ran from 96 to 105 deg. F.

H. C. Boufig, vice-president and general manager of the company, recently held meetings in Springfield and Joplin. He also visited dealers in southern Kansas, and spent two days at the branch office in Wichita.

### Exhibits at Food Show

Mace-Ryer, Kansas City dealer, displayed Majestic refrigerators at the Twentieth Annual Food and Drug Show recently held in Convention Hall here. Majestic refrigerators were used to preserve the products in the displays of Aines Dairy, Olathe Creamery, Standard Advertised Brands, and Del Monte Foods.

This dealer has leased a 100-ft. front building at 39th and Broadway, to be used exclusively for merchandising of Majestic refrigerators and radios.

The Adams-Bennett Music Co. has arranged for demonstrations before various church and Parent-Teacher groups, with an average attendance of more than a hundred to date. Norman Wilson, sales manager for Sterling, has appeared before 18 of these Wichita groups.

H. J. Hanna, dealer in Lawrence, prefers to invite his guests personally. When he gets 150 live prospects ready he sends for Mr. Wilson and the demonstration is put on in the Eldredge Hotel banquet room.

In Anthony, Kan., the Wood Music Co. recently entertained 250 women in the Fox Theatre at the first showing of the Majestic.

E. N. Henderson, of Harrison, Mo., and the Red Front General Stores of Crane, Mo., new dealers, are planning demonstrations in the near future.

## FOURTEEN DEALERS NOW SELL NORGE IN CLEVELAND

CLEVELAND—Fourteen retail outlets for the Norge refrigerator are operating under Strong-Carlisle & Hammond, distributor in this city.

Eight of the outlets are branches of the Meisel Tire Co. chain. The other dealers are: the Best Stove Co., 10619 Superior Ave.: the Clifton Furniture Co., 9802 Madison Ave.; Lipstreu Music Co., 1757 East 55th St.; Louis London Furniture Co., 12000 Buckeye Road; Rocky River Hardware Co., 19203 Detroit Ave.; and A. W. Stark Co., 3480 West 25th St.

## RADIO, SPORTING GOODS SHOPS BECOME DEALERS

CLEVELAND—Glenmont Radio Co., 10610 St. Clair Ave., is now retailing Frigidaires.

Newman Stern Co., which operates a large sporting goods store, has been named a Majestic dealer.

# REFRIGERATION TOPS 1931 DEMAND LIST

By W. D. McElhinny
Vice President in Charge of Sales
Copeland Sales Co.

SUCCESS in merchandising is very much a matter of selling people what they want.

When you can find what they want and then supply it at a profit, you have accomplished your primary object in business.

What are the big merchandising opportunities today?

Recently a well known national magazine set out to find the answer to this question by asking a representative cross-section of its readers to state what they intend to buy in 1931.

The wise merchant will take a tip from these replies and be prepared to supply the items these people intend to buy.

Of particular significance to the radio, electric refrigeration, and music dealers is the outstanding number of people who state they will buy electric refrigerators in 1931. This group outnumbered all others in the questionnaire by a vast margin.

Replies indicated that 56.7 per cent of the subscribers intend to buy approximately $39,500,000 worth of electric refrigerators.

As against 56.7 per cent who will buy new electric refrigerators, 32.5 per cent will buy new cars, 4.2 per cent are planning to build new homes, 24.5 per cent plan redecorations and the purchasing of new furnishings for their homes, and 30 per cent plan to buy new radios.

### New High Levels

This information follows the outstanding achievement of electric refrigeration in 1930, which set new high levels far surpassing the banner year of 1929. Comparative figures for the two years show that the dollar value of sales in 1930 was 8.8 per cent higher than in 1929, and the number of refrigerators sold 23 per cent greater.

An analysis of this achievement will help clarify some of the sales opportunities that this husky new infant among the industries offers. It will probably be fairer to state these facts from our own experience, so that general conjectures may be avoided. No doubt some of the reasons stated will apply to other manufacturers as well as ourselves.

But in our own case we attribute this increase to:

1. Improvements in the product;
2. Enthusiasm aroused in a series of sales meetings;
3. A large and more active field organization;
4. More and better co-operation with dealers;
5. Taking advantage of existing conditions.

### Important Factor

Another factor that contributed to the increase in electric refrigerator sales in the past is the fact that for many years people have been buying automobiles, radios, electric appliances, nice furniture and many other things. Almost every prospect for electric refrigeration has a car, a radio, and other popular specialties.

When buying suddenly became unpopular early in that year, they began to retrench. They decided the old car would last a while longer, the radio was quite satisfactory, all their appliances were working, and there wasn't anything of the kind that they really needed to buy immediately.

They heard a lot of talk about hard times and they really concluded they had better hold onto their money. Still, they had been thinking of electric refrigeration, and when a salesman called he found conditions favorable. The prospects had some money. Their other wants were pretty well supplied, and they were interested in electric refrigeration.

We took full advantage of this condition. We sold them thoroughly on the idea of electric refrigeration, then we sold them terms. We didn't talk about a $200 purchase; we told them all they needed to have that wonderful convenience and necessity in their homes was a $20 bill. Or, if we were speaking of difference between a $200 machine and a $250 one, we didn't mention the $50; the only immediate difference in the down payment—was $5.

### Radio Dealers

The radio dealer has been particularly attracted by refrigeration during the past year, but a great many good radio dealers have proved to be very poor refrigeration merchants. First, because they expected to sell refrigeration on the same appeals on which they sold radio receiving sets. Second, because they only went into the refrigeration business part way. Third, because they had the wrong product marketed by an inexperienced organization.

The refrigeration appeal is, of course, not primarily one of pleasure, and a man who is a whiz-bang at selling pleasure-giving radio sets, may find himself out of his element trying to sell better living, economy, convenience and health appeals of electric refrigeration.

There are certain fundamentals of merchandising which are applicable to any merchandise in any community; but there are no merchandising plans which will work with equal success with all dealers even with the same merchandise.

The profit-producing process that is applicable to all retail business consists of three steps:

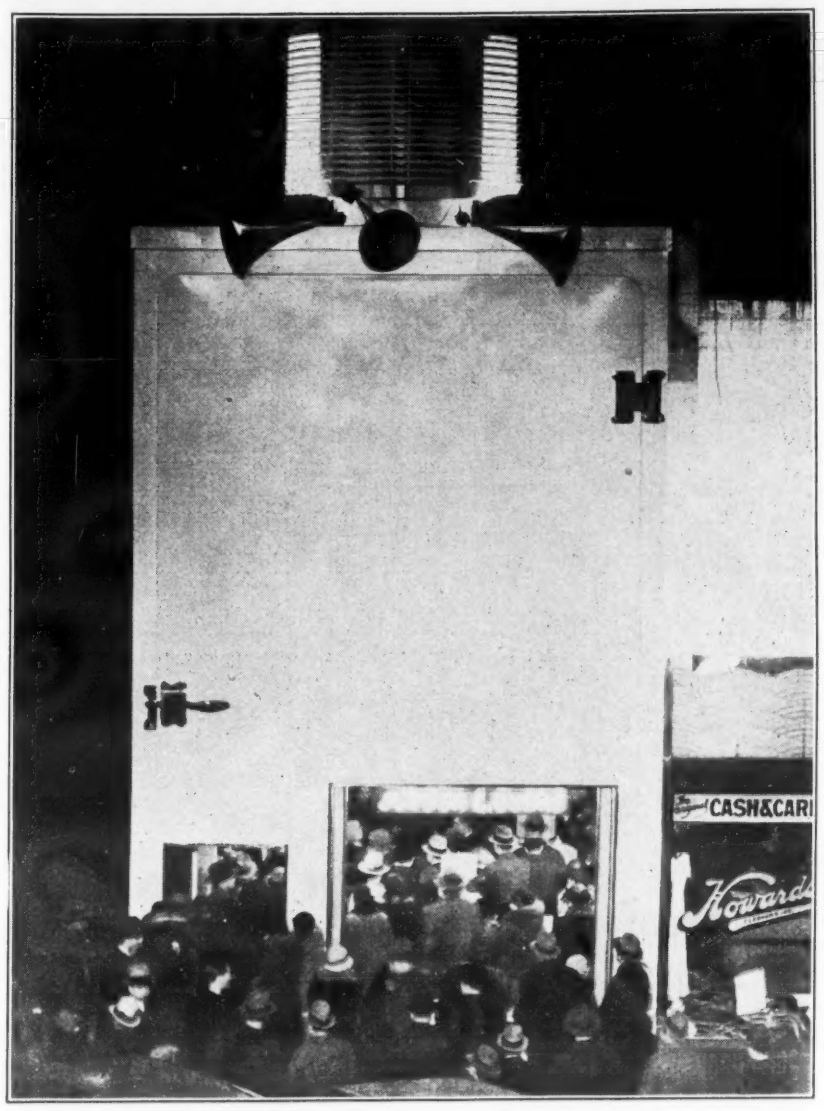
1. Planning, that is, determining what is to be done and how;
2. Action, that is, doing what is planned;
3. Controlling, that is, making sure that it is done as planned.

In the group of planning are the following essentials:

1. Setting the amount of sales volume for the period covered by the budget.
2. Calculating the minimum investment in merchandise with which the planned volume of sales should and can be realized.
3. Determining the amount of markup to cover all costs of doing business and leave the desired profit.
4. Calculation of expense or cost of doing business which will be involved in getting the planned volume.
5. Setting up a proper capital structure.

If the thinking dealer will analyze his own situation, with the foregoing points especially in mind, he will find that electrical refrigeration offers a genuine field of opportunity.

## *Refrigerator in New Role*




Giant G. E. Houses Display of Refrigerators

## N.E.L.A. Offers Sales Course

CHICAGO—To assist salesmen in the field, the Educational Committee of the National Electric Light Association has prepared a new course on the selling of electric appliances, according to an announcement by Fred R. Jenkins, chairman of the committee.

Fourteen lessons make up the complete course for the retail salesmen, five of which have to do with the general fundamentals of salesmanship. The remainder of the lessons take up such phases as selling electric refrigerators, washing machines, vacuum cleaners, table and small appliances, health appliances, ranges and water heaters, and radios.

Every student enrolling will be required to take the first five lessons dealing with the fundamentals, but may elect seven or all nine of the other units. Tuition fee is $25 for twelve lessons, or $29 for the complete course.

Instruction of the salesmen will be given by the home study method, which may be combined with group sales conferences.

Co-operating with the Educational Committee, according to Mr. Jenkins, in the preparation of the course, were members of the staff of the International Correspondence Schools.

Preliminary to the building of the course, both organizations conducted a survey in the field of selling. Interviews and questionnaires resulted in obtaining information from 139 sales managers employing 4,293 salesmen.

From the information it was found that a large majority of managers were of the opinion that salesmen who were over 30 years of age have proven, on the average, to be the most successful. Out of the 4,293 salesmen, it was found that 45.4 per cent were under 30 years of age.

Education of these salesmen was estimated as follows: Elementary, 36 per cent; secondary, 45 per cent; technical, 7 per cent; and college, 10 per cent.

A total of 1,254 salesmen employed by 235 electric utilities listed 73 difficulties that they meet in securing prospective customers and in closing sales.

On the floor of the salesroom the first four greatest difficulties were:

Must consult husband or wife..21.9%
Too many distractions—cannot hold attention .....10.2%
Want a home demonstration... 8.4%
Just looking around ..... 8.1%

In dealing with the prospect in the home the following were the outstanding difficulties:

Lack of money.....22%
Getting husband and wife together for interview.....15%
Wants to see equipment, not photographs .....12.6%
Business conditions ..... 5.3%
Interruptions ..... 4.8%

Listing the ten most vital topics which they would like to see discussed in the course, they suggested 244 different ones. Of the entire number received, however, 48.6 per cent concentrated on the following topics:

How and when to close a sale
Sales approach
Technical information on products
Overcoming objections
How to secure prospects
How to meet competition
Sales presentation
How to demonstrate correctly
Classification of prospects
Electric refrigerator
Electric range
Creating desire
Personality development
How to hold prospect's attention

From the survey data, the two organizations built up the course of instruction on subjects mentioned in the two following paragraphs:

Required lessons are: 1. The Salesman and His Work. 2. Field Selling—(a) Prospecting for New Business; 3. Field Selling—(b) The First Few Minutes—and After; 4. Field Selling—(c) Overcoming Obstacles and Closing; 5. Building a Sales Personality.

A choice of seven, eight, or nine of the elective lessons can be made by students. These lessons are: 6. Selling in the Showroom; 7. Selling Electric Refrigeration; 8. Selling the Electric Home Laundry; 9. Selling Vacuum Cleaners; 10. Selling Table and Small Appliances; 11. Selling Electric Health Appliances; 12. Selling Ranges and Hot Water Heaters; 13. Selling Radios; and 14. Selling to the Rural Customer.

# Judson Burns Puts Monitor Top Into Architecture

PHILADELPHIA—A large, white General Electric refrigerator, 25 ft. high, authentic in every detail except size, erected at 62 S. 69th St., serves as the new branch store of Judson C. Burns, distributor.

The new store, opened the earlier part of this month, is in appearance an exact replica of a General Electric refrigerator. It has the Monitor top, door, latch and hinges.

At the right of the entrance to the branch store, the show window fits into the construction theme, by having its border represent a cross section showing the construction of the refrigerator.

The huge refrigerator door, fitted with a regulation latch 10 ft. above the ground, has a smaller door through which entrance to the store is made.

Set flush with the outside surface, the smaller door swings inward, and is built to resemble a refrigerator door.

To herald the opening of the unique branch store, Judson C. Burns offered a General Electric refrigerator in a prize contest, which was conducted in conjunction with the A. & P. store in that section.

Broadsides were distributed to homes in that neighborhood, which announced that every purchaser of $1 or more of food during the week at this A. & P. store, would receive a free drawing on the refrigerator.

Some 500 persons turned out to witness the prize drawing and loud speakers on the top of the building were used to announce the name of the lucky person. Mrs. Katherine Grant, 222 Marshall Road, Lansdowne, was the winner.

# DEPARTMENT STORE SALES OFF 7% IN '30

WASHINGTON, D. C.—Department store sales for December, 1930, were nine per cent less than those for December, 1929, although the November figure showed a gain of approximately 50 per cent over that of the corresponding month in 1929, according to the Federal Reserve Board.

Since there was one more trading day in December, 1930, the decline in daily average sales amounted to 14 per cent.

These declines are expressed in dollar volume and do not take into account the decline in the average price levels between December, 1929, and December, 1930.

Based on figures of 614 stores in 252 cities, these returns indicate that the declines for 1930 amounted to seven per cent from the levels established in 1929.

The following table compiled by the Board reported by districts shows the decline for December, 1930, compared to December, 1929, and for the year 1930 compared to the full year of 1929:

| District | —Declines— Dec. 1929 to Dec. 1930 | 1929 to 1930 |
|---|---|---|
| Boston | 8 | 1 |
| New York | 6 | 3 |
| Philadelphia | 12 | 8 |
| Cleveland | 11 | 10 |
| Richmond | 4 | 3 |
| Atlanta | 10 | 9 |
| Chicago | 12 | 14 |
| St. Louis | 14 | 11 |
| Minneapolis | 10 | 8 |
| Kansas City | 4 | 4 |
| Dallas | 10 | 7 |
| San Francisco | 9 | 6 |

# EXPORT INFORMATION ON REFRIGERATORS

## Refrigerator Demand Expanding Rapidly in Switzerland

By Samuel W. Honaker,
American Consul, Berne, Switzerland

ALTHOUGH electric refrigerators are extensively used in Switzerland, they are by no means a common household appliance in the average home. Their use is principally confined to the cities and towns. Only to a very limited extent are they used in the rural districts.

Ice refrigerators were first introduced into hotels, then into homes of independent income. Lately they have become more widely used by the average owner of a home or apartment, even though many of the latter class are not provided with an article which in some countries is regarded as a necessity.

The first refrigerators were those using ice, this product being produced and furnished by breweries. The larger part of the refrigerators in use at the present time are of this type.

Several years ago natural ice was replaced to some extent by frozen carbonic acid (solid carbon dioxide) in connection with refrigerating activities. This chemical it is claimed lasts longer than natural ice.

A factory near Berne is at the present time producing liquid air, liquid oxygen, and liquid carbonic acid. This concern, Carba A. G., recently introduced a refrigerator using frozen carbonic acid, or dry gas.

This type of refrigerator is reported to have met a favorable recepception on the part of the public; and operating costs are claimed to be lower than in the case of electric refrigerators.

Within the last few years the electric refrigerator has been gaining considerably in popularity and it now promises to present an expanding demand.

American made electric refrigerators have aided considerably in popularizing the use in Switzerland.

As a consequence, Swiss firms also began to construct electric refrigerators and are now competing actively in this market with a limited number of foreign brands. They are being favored especially by the Swiss attitude which in nearly all cases inspires a preference for locally manufactured goods.

There exists in Switzerland a relatively large potential demand for electric refrigerators, notwithstanding the fact that this demand must be developed.

Switzerland is extremely fortunate in connection with the production of electricity. At the present time consumption of electricity is estimated to be approximately 931 kwh, per capita of population.

At the same time there still exists many possibilities of producing a greater amount of electricity and the potentialities in this respect are being given more and more consideration.

Apartment houses are now being constructed in several parts of Switzerland in which electric refrigerators are being installed. Although this procedure is not being extensively employed in the Bernese area at the present time, it is probable that it will be more generally adopted within the next few years.

### Local Production

Electric refrigerators are not manufactured in the Berne Consular District. The principal manufacturers which are situated in the highly industrialized districts are Autofrigor A. G., Zurich; Electrolux A. G., Zurich; Frimax, S. A., Geneva; Max Thum, Geneva; and Hans Eisinger, Basel.

For larger installations, such as abattoirs, butchers, etc., some of the principal producers are Brown Boveri & Co; Gebruder Sulzer A. G; Escher; and Wyss & Co. A. G.

### Types and Prices

American refrigerators enjoy a good reputation for quality and general design. They are usually higher in price than the domestic article and consequently sales are restricted.

The bulk of the imports from the United States consist of the brand of one company. The success of this brand is largely due to consistent advertising, as well as to a demonstration campaign which was effected approximately at the time of introduction. The American refrigerator is reported to be excellently adapted to the hotel industry, which forms one of the principal enterprises in Switzerland.

Different models of the Electrolux, which commands one of the largest sales of the electric refrigerators manufactured in Switzerland are:

Model B 4—Exterior steel, white Duco. Interior steel, white enamel, 2 drawers for 24 ice cubes. Total contents: 0.112 meters.

Model B 5—With marble slab. Exterior wood, white lacquer. Interior steel, white enamel. 3 drawers for 36 ice cubes. Total contents: 0.174 meters.

Model K 8 (2 doors) Exterior steel, white Duco. Interior, steel, white enamel. 4 drawers for 48 ice cubes. Total contents: 0.230 meters.

The Gesellschaft fur Linde's Eismachinen, A. G., of Mainz-Kostheim, Germany, recently introduced electric refrigerators at Berne. The principal models are as follows:

Model L H 21—Interior, porcelain, enamel. Exterior, white Nitro-enamel. Total contents: 0.21 cubic meters.

Model L H 31—Interior, porcelain, enamel. Exterior, white Nitro-enamel. Total contents: 0.315 cubic meters.

### Import Duties

Swiss customs duties on imports of refrigerators are as follows:

| Position in Swiss customs tariff. | Description of goods. | Francs per 100 Duty in Swiss kilograms (Gross weight) | Tare |
|---|---|---|---|
| | Refrigerators, wood enclosed—simple, without molding, carving, etc. | | |
| 259 | Unfinished, unpainted, in rough state | 35.— | 10% |
| 260 | Finished | 45.— | 15% |
| | Refrigerators, wood enclosed, with moldings, carved, etc. | | |
| 261 | Unfinished, unpainted, in rough state | 45.— | 15% |
| 262 | Others, finished | 53.— | 20% |
| | Refrigerators, wood enclosed, sculptured, engraved, incrusted with mosaic. | | |
| 263 | In rough state, unfinished | 90.— | 20% |
| 264-a | Others, finished | 100.— | 25% |
| 784-b | Refrigerators other than of wood | 40.— | 20% |

Customs calculations are made on the basis of gross weight or occasionally on a net weight basis plus the specified minimum tare, which is given in the case of the above positions.

### Credit Terms

Usual credit terms are normally three months or 30 days with 2% discount. Quotations should preferably be c. i. f. European port, usually Antwerp, Havre, or Genoa.

### Imports

Notwithstanding the citation of customs duties on refrigerators, there are no statistics showing separately importation of these goods into Switzerland.

Although Berne is one of the most important consuming centres in Switzerland, it is not noted as a manufacturing area or as a point for the distribution of imports.

In introducing goods into Switzerland, foreign manufacturers are more frequently accustomed to appoint an agent having his headquarters either at Zurich or Basel, and from that point endeavor to obtain distribution throughout Switzerland.

### HARDWARE DEALERS IN BERNE DISTRICT

Christen & Company, A. G., Berne; corporation; established, 1883; capital, Swiss francs, 600,000; number of employes, 80; volume of business, large; reputation, good; wholesalers and retailers.

Robert Meyer, A. G., Berne; corporation; established, 1885; capital, Swiss francs, 200,000; number of employes, 30; volume of business, fairly large; reputation, good; wholesalers and retailers.

Kiener & Wittlin, A. G.; Berne; corporation; established, 1905; capital, Swiss francs, 500,000; number of employes, 30; volume of business, fairly large; reputation, good.

A. H. & K. Tschappat, A. G.; Bienne; corporation; established, 1883; capital, Swiss francs, 250,000; number of employees, 20; volume of business, fairly large; reputation, good.

J. Muller & Sohne A. G.; Bienne; corporation; established, 1883; capital, Swiss francs, 450,000; number of employes, 30; volume of business, fairly large; reputation, good.

Will & Co., A. G; Bienne; corporation; established, 1892; capital, 250,000 Swiss francs; number of employes, 15; volume of business, fairly large; reputation, good.

### GENERAL INFORMATION

**Territory**

Cantons of Berne, Fribourg and Neuchatel; total area 3,612 square miles or nearly one-fourth of Switzerland; a large farming, dairying and watchmaking region.

**Population**

French is the chief language of the Cantons of Fribourg and Neuchatel. About 20 per cent of the inhabitants of the Canton of Berne are French speaking, the remaining 80 per cent German speaking. The population of the Canton of Berne is 699,200, Fribourg Canton 149,400, Neuchatel Canton 125,250. Total, 973,850 or nearly one-fourth Switzerland's population.

Principal cities: Berne, 109,884; La Chaux-de-Fonds, 35,950; Biel (Bienne), 36,800; Neuchatel, 22,050; Fribourg, 21,050; Thun, 18,350; Le Locle, 12,100; Burgdorf, 10,000.

**Living Standards**

Comfortable but economical. Higher than in most European countries.

**Climate**

Sudden changes in temperature all the year except at high altitudes. Average rainfall 40 inches; average temperature 47 degrees Fahrenheit. The Bernese Oberland is noted for its summer and winter resorts, many of which offer favorable climatic conditions.

**Industries**

Agriculture, milk and dairy products; watch and clock making (nearly 80 per cent of national production); industrial jewels; chocolate; automobiles (1 factory); electrical articles; cement; knit goods; textiles; wood carving. Berne is the chief Swiss cheese exporting center. The so-called Bernese Oberland has many popular tourist resorts (Gstaad, Grindelwald, Murren, Interlaken, etc.)

**Imports**

Wheat and other grain; dried and preserved fruit; molasses and syrups; preserved meats and fish; lard and oleomargarine; coffee; tea; sugar; leaf tobacco; fertilizers; skins and leather; automobiles, tires and accessories; cotton; iron; steel; tinplate; brass; lead; zinc; tools; gasoline engines; bicycles; cash registers and calculating machines; typewriters; petroleum products; machine oil; toilet articles; drugs and medicines; hardware; and office supplies.

**Exports**

Watches, clocks, industrial jewels, cheese, cotton goods, knitted goods (underwear), chocolate, electrical articles and machinery, reptile leather, serums, chemical food products (malted chocolate), candies, and crackers.

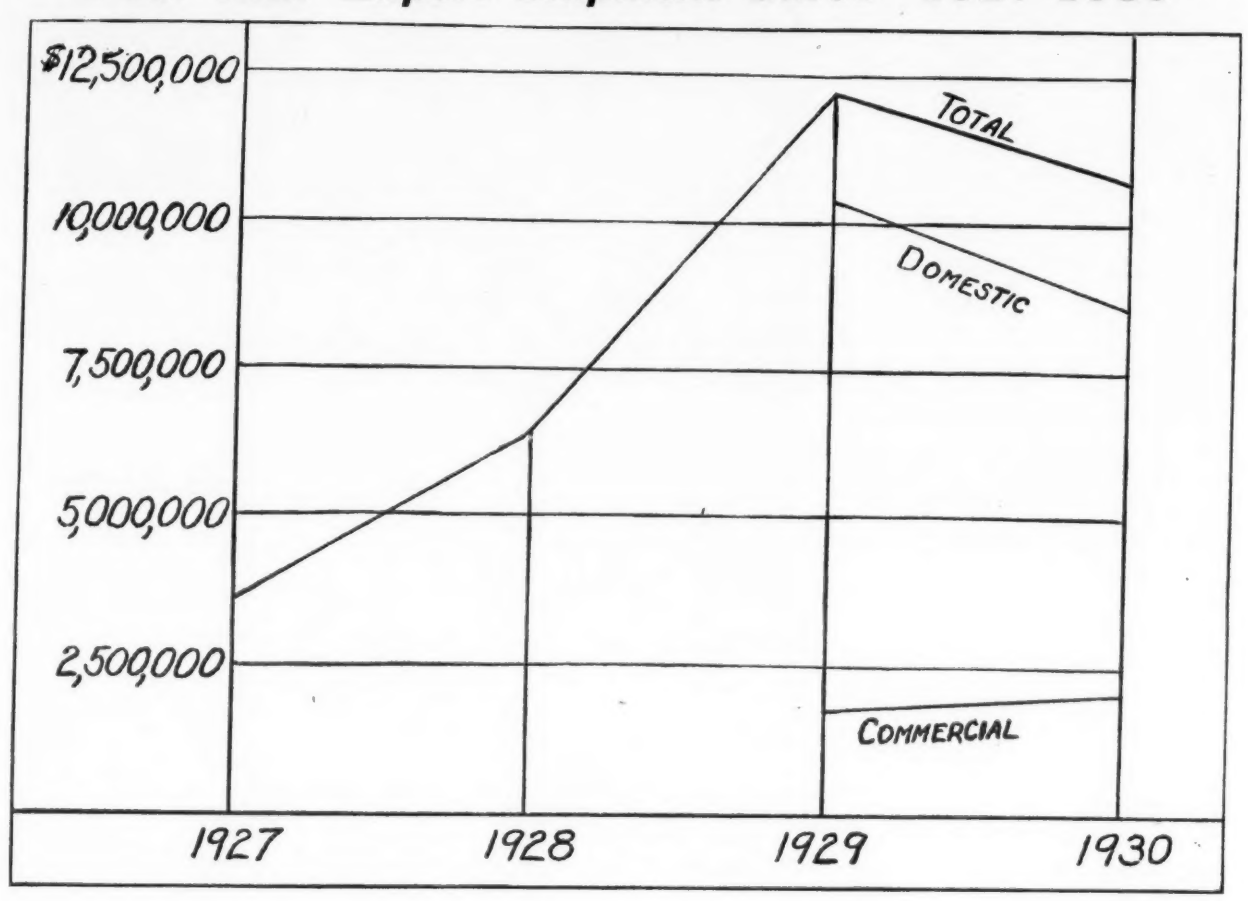
**Banks**

Berne: National Bank of Switzerland, Berner Handelsbank, Schweizerische Volksbank, Schweizerische, Kreditanstalt, Kantonalbank von Bern. La Chaux-de-Fonds (and Le Locle): Banque Cantonale Neuchateloise, Banque Federale, Caisse Industrielle Neuchateloise. Biel: Kantonalbank von Bern, Schweizerischer, Bankverein. Neuchatel: Banque Cantonale Neuchateloise, Banque Nationale Suisse. Fribourg: Banque Cantonale Fribourgoise, Banque Commerciale et Agricole. Thun: Kantonalbank.

**Postage**

Letters, 5 cents, first ounce; 3 cents every additional ounce. Post cards, 2 cents. Circulars and samples, 1 cent every two ounces.

### Four Year Export Shipment Curve—1927-1930




| | NO. | VALUE |
|---|---|---|
| 1927—Units under 1 Ton Capacity | 22,588 | $ 3,684,981 |
| 1928—Units under 1 Ton Capacity | 35,712 | $ 6,469,179 |
| 1929—Domestic units | 63,322 | $10,375,334 |
| 1929—Commercial units | 8,868 | $ 1,823,862 |
| 1930—Domestic units | 58,621 | $ 8,579,888 |
| 1930—Commercial units | 11,125 | $ 2,115,745 |

## FOREIGN REFRIGERATION DEMAND REPORTED GOOD

DETROIT—The slump in United States exports is not universal, declares Harry M. Robins president of the H. M. Robins Co., exporters of Copeland.

"Particularly in the field of refrigeration," Mr. Robins said, "there has been no appreciable slump. Foreign markets show an increasing ability to absorb American-made mechanically operated refrigerating equipment.

"Although household refrigerators are in demand, greater interest has developed in commercial units, that is, machinery for cooling grocery, meat and milk boxes, display counters, florist's cases and for apartment house and hospital refrigeration.

"Even soda fountains are making headway with the result that American style drug stores bid fair to displace abroad, as in the United States, the old fashioned chemist's shop, apotheke and farmacie."

## BAKER COMPANY REPORTS EXPORT BUSINESS GAIN

OMAHA—Export orders for ice-making and refrigerating machines received by the Baker Ice Cream Co. during the current fiscal year, 1930-1931, have exceeded last year's orders by more than 60 per cent, officials of the company report.

Since January first export shipments have been made to Japan, Formosa, the Philippine Islands, Colombia, Panama, Costa Rica, El Salvador, the Virgin Islands, Canada, Spain, and the Union of South Africa.

# SEARLE, LEWIS TALK TO BRITISH DEALERS

LONDON, ENG.—Dealers in the territory covered by Kelvinator, Ltd. of England, gathered in this city recently for their annual sales convention.

Ralph Searle, managing director of the British company, who was chairman, opened the convention with an address in which he stressed the fact that in 1930 electric refrigeration fared better than other business.

Sales Manager F. E. Kewley covered every phase of the 1931 advertising and selling program.

R. C. Washington, of the sales staff, spoke on sales procedure.

J. Gibson Jarvie, chairman of the United Dominions Trust, discussed hire-purchase, deferred payments, who can buy, and why.

Other speakers were: E. O. Walker, Manchester dealer; Harry Walker, Birmingham dealer; T. A. C. Land, of Electric Refrigerators and Appliances, Ltd., Glasgow; Mr. Hodgson of Letchworth, and L. G. Hawkins.

A feature of the convention was a tour of the Kelvinator works and showrooms on Gray's Inn Road.

At the Midland Grand Hotel a dinner concluded the convention. The principal speakers were Howard A. Lewis, treasurer of the Kelvinator Corp., Detriot, vice president and treasurer of Kelvinator of Canada, Ltd., and director of Kelvinator, Ltd., London, England, and Ernest Hunt.

# FORT WORTH COMPANIES REPORT RECENT ACTIVITIES

FORT WORTH, TEX.—The Griswold-Rodgers Co., distributor of General Electric refrigerators, has promoted John M. Parker to the position of sales manager.

Mr. Parker succeeds P. E. Flemister, former sales manager, who has been made branch manager.

Recently, Griswold-Rodgers sold 16 refrigerators in one day's retail selling. Mr. Parker said his company's business has shown a 15 per cent increase to date over last years volume.

The Carroll Moore Co. has been appointed dealer for the Kelvinator line. The company also handles General Electric and Philco radios.

J. P. Anderson Co., Frigidaire dealers, has moved to new quarters at 901 West Seventh St.

The spring showing of the new Frigidaire models and formal opening were held simultaneously.

J. P. Anderson, president of the company, was formerly sales manager for P. M. Bratten & Co., distributor of Frigidaire. He was with that company for seven years.

Both wholesale and retail sales are handled by the company, which employes 31 persons in the various departments. Six employes comprise the installation department and 25 the office and sales department.

# CUSHMAN CO. OPENS TWO APPLIANCE STORES

CLEVELAND—Cushman Refrigeration Co., General Electric refrigerator distributor, has opened two General Electric home appliance stores.

The home appliance stores are located at 2251 Lee Road and 15608 Detroit Ave. In addition to the refrigerators, vacuum cleaners, sun lamps, electric ranges, washers, ironers and radios will be sold.

# EARLVILLE ELECTRIC SHOP CAPTURES PRIZE

EARLVILLE, N. Y.—The Earlville Electric Shop, operated by Raymond Stackweather, has captured the annual per capita prize for independent dealers selling the largest number of Kelvinators in this territory.

The Earlville Shop sold 27 Kelvinators in a town of 700 inhabitants. It operates in the territory of Meachem-Fenn, Inc., distributor at Syracuse.

# NORGE DEALER COMPLETES COMMERCIAL JOBS

NEW HAVEN, CONN.—Three Norge commercial installations are reported by Leo Setlow of the Ideal Plumbing & Heating Co., local dealer.

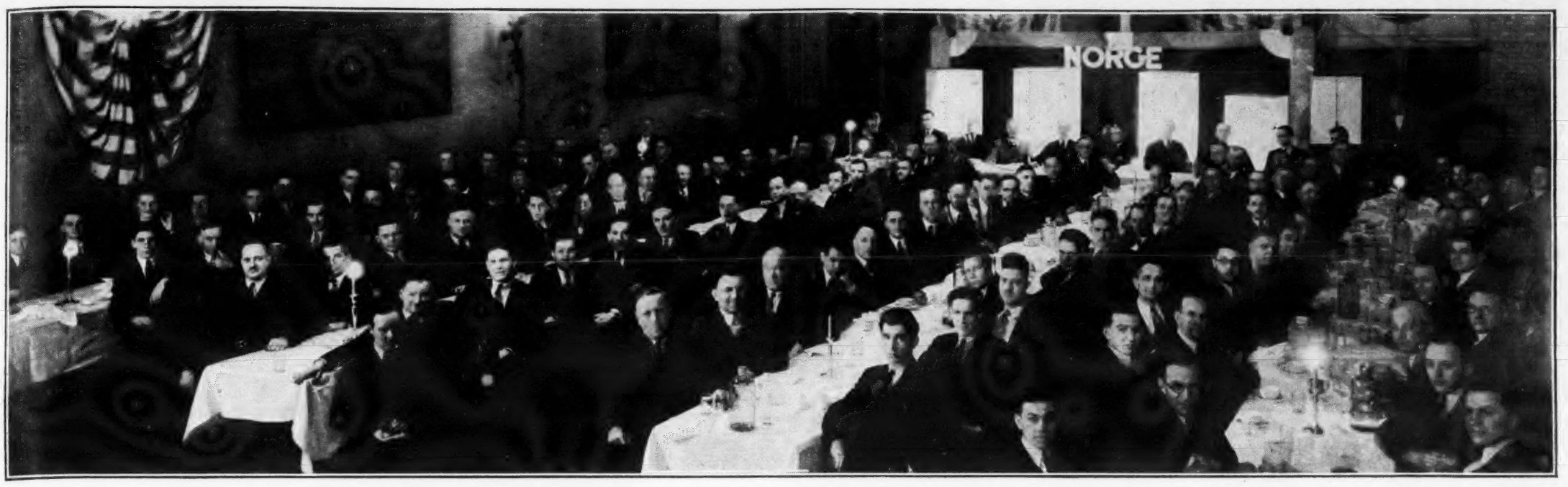
The installations, all employing 1 h. p. Norge compressors with Larkin coils, refrigerate walk-in coolers in the Star Poultry & Meat Market, Elm City Meat Market, and the French-Italian Importing Co.

# COPELAND REPRESENTATIVE VISITS CANADIAN FIRMS

DETROIT—Earl J. Black, Canadian representative for the H. M. Robins Co. of this city, exporter of Copeland equipment, left Toronto recently to make a trip through western Canada to visit Copeland distributors in that territory. Among the cities which he will visit are Winnipeg, Calgary and Vancouver.

# Graphic Illustration of Successful Selling Methods Used By Small Town Commercial Salesman

# Buffalo Distributor Entertains Norge Dealers




One hundred Norge dealers who were guests of the W. Bergman Hardware Co., Buffalo, at a recent sales conference.

## FILM SHOWS POSSIBILITIES OF SMALL TOWN SALES

CLEVELAND—"It is very easy to overlook the small town in considering market development plans," says Gus Mayer, merchandising manager of the General Electric refrigeration department.

"Too much of the sales promotion material is designed with a view to its use by the big distributors in large cities. With this thought in mind, we developed a series of films for the exclusive purpose of showing the possibilities of the small town market for electric refrigeration."

On the opposite page is shown a series of pictures produced in film form for presentation at the recent series of territorial meetings held in various cities under the auspices of General Electric distributors.

The story is entitled, "It is Not the Geography," and this negative assertion is completed at the end of the picture with the answer, "It's the Viewpoint."

The story concerns the sales activities of 64-year-old Bert Bauer, leading salesman for Judd and Nichols, General Electric dealers in Ravenna, Ohio.

Bauer gives his selling philosophy, and tells how he sold General Electric commercial units to a variety of business places in and around Ravenna.

According to Bauer, "any man will listen to you just as soon as he sees you are working out his own problem for him. But you have to canvass, by heck, you have to canvass," he says.

## G. E. Reports First Quarter Sales

SCHENECTADY, N. Y.—Orders received by the General Electric Company for all classes of electrical merchandise during the first quarter of 1931 amounted to $60,366,297, compared with $90,397,731 for the corresponding three months of last year, Gerard Swope, president, announced here April 21 at the annual meeting of stockholders.

Sales billed for the first three months of 1931 amounted to $61,959,800.90, compared with $91,205,732.28 for the corresponding period last year.

Profit available for dividends on common stock for the first quarter of 1931 was $10,844,334.09, compared with $14,398,790.52 for the same three months last year, which is equivalent to 38 cents per share in 1931 and 50 cents per share in 1930 on the 28,845,927 shares outstanding in both periods. The quarterly dividend is 40 cents a share.

Comparative statement of sales and earnings for the three months follows:

| | | |
|---|---|---|
| Net sales billed | $61,959,800.90 | $91,205,732.28 |
| Less: Cost of sales billed, including operating maintenance and depreciation charges, reserves and provision for all taxes | 53,755,239.64 | 80,590,320.95 |
| Net income from sales | 8,204,561.26 | 10,615,411.33 |
| Other income, less interest paid and sundry charges | 3,283,520.78 | 4,427,110.19 |
| Profit available for dividends | 11,488,082.04 | 15,042,521.52 |
| Less: Cash dividends on special stock | 643,747.95 | 643,731.00 |
| Profit available for dividends on common stock (28,845,927, 36-100 shares issued) | 10,844,334.09 | $14,398,790.52 |

## Rex Cole Announces $400,000 Construction Program for New Buildings

NEW YORK CITY.—A construction program calling for erection of new buildings and improvements on properties in New York, Brooklyn, the Bronx and Jamacia to cost in excess of $400,000, was announced April 14, by Rex Cole, Inc., distributor of General Electric refrigerators.

Construction will start at once on a new Rex Cole show room building in Bay Ridge, Brooklyn, to cost more than $100,000.

The building will be placed upon an open triangle plot formed by the Long Island Railroad on one side, the high school on another and Fourth Ave. leading from Brooklyn to Coney Island on the other. The building will be triangular.

Designed to display the General Electric refrigerator, a striking tower illuminated by flood lights at night, will feature the product.

The architects are Raymond Hood, Godley and Foulihoux and the contractors are Hegeman and Harris. Sheet steel will be used for the exterior walls, with insulation against both heat and cold.

At Flushing, Long Island, a new building will be placed at 137-77 Northern Blvd. on property leased for a term of years.

More than $100,000 will be spent in extensive improvements which will make the structure at 168-02 Hillsdale Ave., Jamaica, practically a new building, Cole announced. The Jamaica structure will feature the monitor top of the electric refrigerator.

An entire second floor will be added to the Rex Cole building at 2392 Grand Concourse, the Bronx. This addition, coupled with other general improvements and changes, will cost $55,000.

A new building will be constructed soon on another site in Brooklyn, estimated cost to be $80,000. This building will be a huge replica of a General Electric refrigerator.

## NEW COMPANY IN ATLANTA

ATLANTA—Formed to merchandise Frigidaires in the Atlanta metropolitan territory, Advanced Refrigeration, Inc., opened its doors here April 10.

A. A. Unger, who owns and operates the Unger Buick Co. of Miami, Fla., is president of the new concern. E. F. Yancey, formerly of Yancey-Reed Co., is vice president and general manager.

## GRAND RAPIDS HARDWARE PLANTS SPEED PRODUCTION

GRAND RAPIDS, MICH.—The demand for refrigeration cabinet deliveries is making itself felt in a very satisfactory way at the plants of two refrigerator hardware manufacturers in this vicinity.

The Grand Rapids Brass Company of Grand Rapids, Michigan, according to Charles Goodrich, is working a full crew full time, and operating some departments until midnight. This concern supplies, among others, hardware, for Kelvinator, Gibson and Rex cabinets.

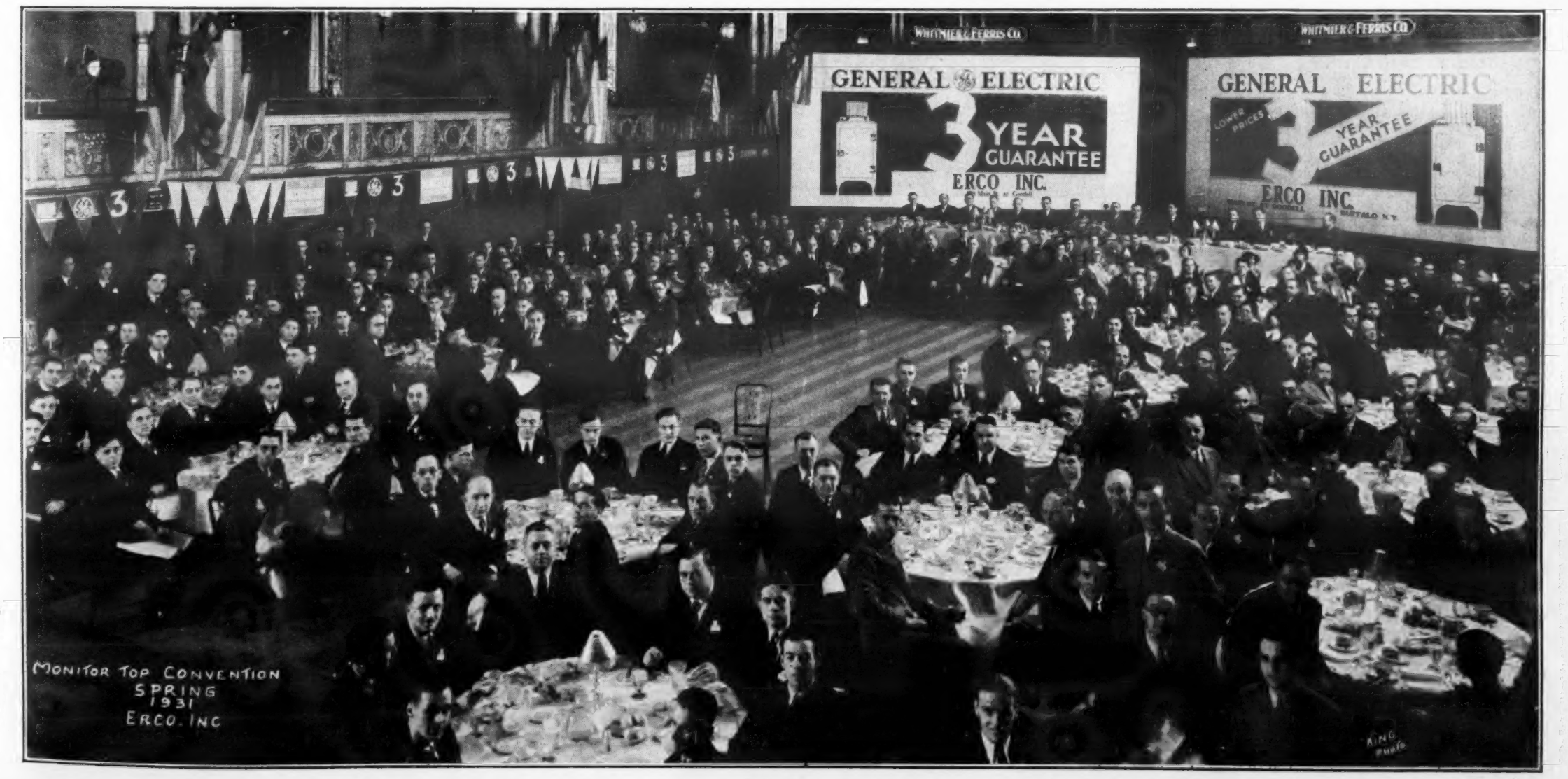
The Winters & Crampton Manufacturing Company of Grandville, Michigan, is working night and day shifts to make deliveries on orders in hand, according to B. R. Crampton, vice president in charge of sales. Among the manufacturers supplied by Winters & Crampton are Norge, General Electric and Sears & Roebuck.

## SAN ANTONIO WON HONORS

The San Antonio Frigidaire district led the United States in the percentage of quota sold in 1930, and not the Dallas district as mentioned in the March 25 issue of the News, states H. R. Stewart, manager of the Frigidaire Southwest region.

Dallas, according to Stewart, led all districts during the month of January, 1931.

# G. E. Men Attending Convention of Erco, Inc., Buffalo




Dealers operating under the Buffalo General Electric refrigerator distributor gathered at the Hotel Statler for their annual spring meeting.

# BUSINESS IMPROVING SAYS COPELAND MAN

MT. CLEMENS, MICH.—New England is leading many sections of the country in the improvement of business, said W. D. McElhinny, vice president in charge of sales of Copeland Sales Co., on his return recently from an eastern trip which included Boston, New York and Baltimore.

"New England is recovering rapidly," Mr. McElhinny stated, "and our business in this section is very good. It is decidedly better than it was last year.

"In New York, too, the improvement is marked. Building seems to be very much on the gain, and the feeling in that city is better than it has been at any time since last May. People appear to be taking advantage of the low building costs prevailing at this time.

"Business is also improving in Baltimore. The Eastern Hardware & Supply Co., Copeland distributor there, reports sales and inquiries greatly on the increase."

# CROSLEY MAKES CHANGES IN NEW YORK DISTRICT

NEW YORK CITY—The Crosley Distributing Corp. has recently taken over complete distribution of Crosley radio receivers and other products of the Crosley Radio Corp. in the metropolitan New York territory, including Westchester and Putnam counties, Long Island, Staten Island, Brooklyn and the Bronx.

V. B. Level, former district representative for the Crosley Radio Corp., Cincinnati, is now manager of the wholesale branch.

J. F. McGrath, who was connected with the Twentieth Century Radio Corp., Brooklyn, former Crosley distributor, has been appointed credit manager.

## J. J. DENEHAN JOINS STERN'S SALES STAFF

HARTFORD, CONN.—J. J. Denehan has joined the sales staff of Stern & Co., Majestic distributor. He will work from the Hartford office, covering Hartford, West Hartford and Weathersfield.

Denehan was formerly connected with the Victor Phonograph Co., and was later employed with the East Hartford office of Majestic Distributors.

The Flint-Bruce Co. of Hartford staged a Majestic exhibit at the Home Progress Show which was held at the State Armory the latter part of March.

## BALTIMORE CO. PLACES TEN SALESMEN IN FIELD

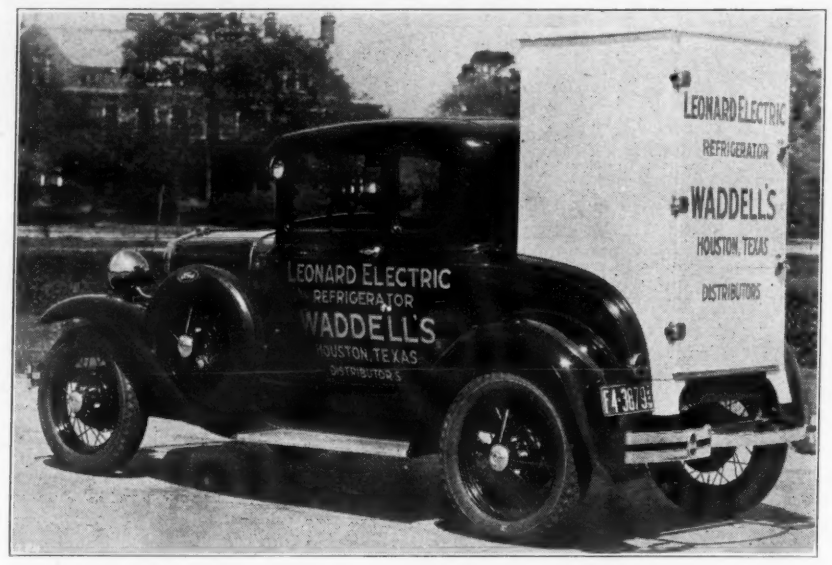
BALTIMORE—Bernard W. Carle, manager of the electric refrigeration division of Parks & Hull, Inc., Westinghouse refrigerator distributor, has rounded out his organization, which includes two supervisors and a sales staff of ten men.

The company is constructing a large display room for the refrigeration display.

## ILLINOIS ICE COMPANY TO SELL KELVINATORS

CHICAGO—J. M. McDonald, district representative of the Wiswell Radio Co., Kelvinator distributor in this territory, reports the appointment of the Homewood Coal, Ice and Material Co., headed by Al Gold, at Homewood, Ill., as Kelvinator dealers.

# *Leonard Takes To Rumble Seat*




To acquaint the people of Houston with the Leonard refrigerator, Waddell's is using this perambulating advertisement. A Leonard electric refrigerator, appropriately lettered, reposes in the rumble seat of the coupe.

# SPRINGFIELD UTILITY REPORTS SALES GAIN

SPRINGFIELD, ILL. — Frank E. Kunz, in charge of sales for the Illinois Power Co., reports that mechanical refrigerator sales for the first quarter of this year showed a 400 per cent increase over sales during the same period last year.

On April 23 a district sales meeting will be held at the company's building, with a dinner at Fisher's Inn immediately preceding the meeting.

Dealers and salesmen from Springfield, Jacksonville, Beardstown, Decatur, and Lincoln will attend.

R. Haas, president of the R. Haas Electric and Mfg. Co., distributor for the Norge and Majestic refrigerators, will retire from active business.

The A. Dirksen and Son's new appliance store, which was opened April 11 at 112 North Fifth St., is managed by Frank Redmond, Jr.

At the new store Copeland refrigerators, together with other electric appliances, are sold.

## THE CONDENSER

ADVERTISING RATE fifty cents per line (this column only).

SPECIAL RATE if paid in advance — Positions Wanted — fifty words or less, one insertion $2.00, additional words four cents each. Three insertions $5.00, additional words ten cents each. All other classifications—fifty words or less, one insertion $3.00, additional words six cents each. Three insertions $8.00, additional words sixteen cents each.

REPLIES to advertisements with box numbers should be addressed to the box number in care of Electric Refrigeration News, 550 Maccabees Building, Detroit, Mich.

### POSITIONS AVAILABLE

SALESMEN for exclusive open territories to call on dealers of refrigerators, with a reliable line of refrigerator display material. Very attractive straight commission basis. Write selling experience and names of last two employers. Realistic Displays, Inc., 266 Fabyan Place, Newark, N. J.

### POSITIONS WANTED

REFRIGERATION Engineer, A. S. R. E. member now employed, seeks new connection with aggressive concern. Familiar with sulphur dioxide and methyl chloride, modern technique and costs, of domestic and small commercial refrigeration equipment. Capable of taking full charge of designing, sales, service, manufacturing or experimental departments. Age 35. Box 325.

VALUABLE refrigeration and idea man desires position with growing company. Six years Frigidaire commercial supervisor. (Chicago territory.) Box No. 324.

AVAILABLE—General Electric wholesale-resale man, both domestic and commercial. Three years' experience utility, merchant dealer contact. Capable of assuming sales direction. Middle west or west preferred. Technical and advertising background. Age 38. Married. Address Box 326.

ONLY TWO DOLLARS is the cost of fifty words in this column if you are looking for a new position. (This is the special paid-in-advance rate for advertisements under "Positions Wanted"). Manufacturers, distributors and dealers examine this column when they are looking for men to fill available positions.

### MERCHANDISE WANTED

NEW or used refrigerator cabinets, any finish, from five to thirty cubic feet capacity. Also new, used electrical refrigeration units, also brine tanks. Full particulars first letter. Box No. 327.

### EQUIPMENT WANTED

IF YOU WISH TO BUY used equipment, parts or products of special design, you may use The Condenser column to advertise your inquiry. Advertisements will be inserted under the above heading. The rate for fifty words or less is $3.00 per single insertion—three insertions $8.00.

## LITERATURE OF MANUFACTURERS

Catalogues, bulletins and other material recently issued.

Manufacturers are requested to send copies of new trade literature to Electric Refrigeration News.

### Kelvinator

In a new folder, available to the trade, Kelvinator Corp. of Detroit is illustrating its line of electric refrigeration equipment for the ice cream manufacturer and dealer. Single row, 2 and 3 hole models, double row, 4, 6, 8, 10 and 12 hole models, and portable 2, 3 and 4 hole models, make up the cabinet line.

For refrigerating the above-mentioned models, Kelvinator has 14 condensing units.

## REFRIGERATORS DISPLAYED AT DES MOINES SCHOOL

DES MOINES, IOWA—Exhibitors at the Annual Register and Tribune Cooking School, held here recently at Shrine Auditorium, included the A. A. Schneiderhahn Co. and Davidson Furniture Co., displaying Servels, and Warde B. Stringham Co. and the Des Moines Electric Co. exhibiting the General Electric line.

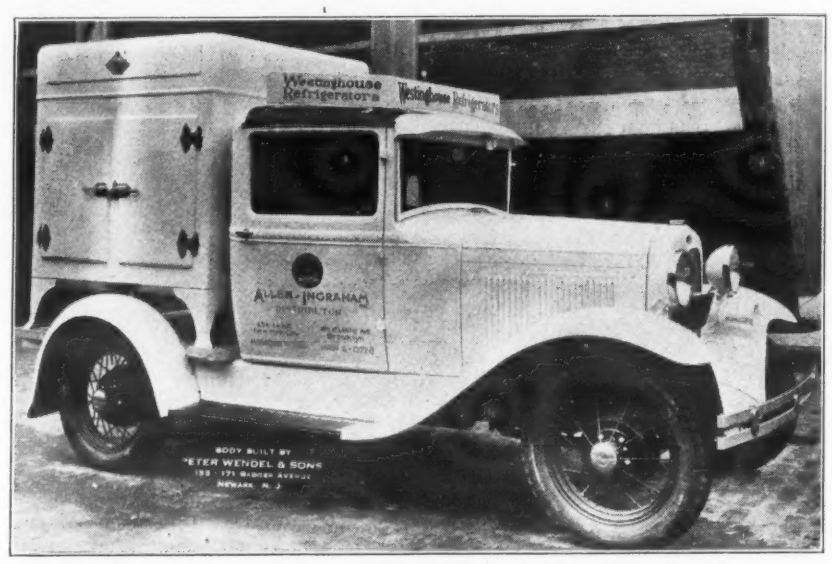
The Central Electric Co. and the Thomas Electric Co. are now dealers for General Electric refrigerator in Des Moines.

## GOGGAN & BROS. ARE NAMED SAN ANTONIO DEALER

SAN ANTONIO, TEX.—Appointment of Thomas Goggan & Bros., of San Antonio, Texas, as metropolitan dealers for Kelvinator electric refrigeration units, has been announced by the Neches Electric Co., of Antonio, distributor for this district.

Thos. Goggan & Bros. are among the pioneer music firms of Texas, the firm having been in business in San Antonio for more than 60 years and enjoying an extensive trade throughout southwest Texas.

# *New Westinghouse Truck*




The first of a fleet of Westinghouse refrigerator trucks with a special body made its appearance in New York recently. Allen-Ingraham, Inc., distributor, ordered this truck, the body of which typifies the Westinghouse WL-130, or rather, two of them back to back.

Exact size of the WL-130 refrigerator and the detail is carried out, even to the chrome satin finish hardware.

## DIRECTORY CORRECTIONS

Printed below are corrections and additions to the annual catalog and directory, which appeared in the "Pink Section" of the Jan. 14 issue of Electric Refrigeration News.

### Bakelite Products

**General Electric Co.,** Schenectady, N. Y.
(Textolite Refrigerator Strips)

**Panelyte Corp.,** Trenton, N. J.
(Panelyte Refrigerator Strips)

**Synthane Corp.,** Oaks, Pa.
(Synthane Refrigerator Strips)

Additional listings for the Imperial Brass Mfg. Co., 1200 West Harrison St., Chicago, Ill., Castings, Forgings (Die Pressed Parts), Screw Machine Products, Strainers, Valves, Name Plates, and Welding Equipment.

Additional listing for Armstrong Cork & Insulation Co., Lancaster, Pa. (under unit parts, materials and accessories), cork machinery isolation and pipe covering-cork insulation.

## BUFFALO CO. SELLS TWO WATER COOLING JOBS

BUFFALO, N. Y.—Two new installations have been recently made by the Kelvinator-Buffalo Corp. The Power City Trust Co., Niagara Falls, N. Y., ordered two model 110 Temprites, two model 120 Temprites, one model 630 Halsey-Taylor semi-recessed wall fountain, and one WF-40 Kelvinator compressor unit.

A new water cooling system has been installed in Crosby Hall, University of Buffalo. Four model 110 Temprites and one model WR-20 Kelvinator compressor were placed by the Buffalo company.

## BIRMINGHAM STORE NAMED FRIGIDAIRE DEALER

BIRMINGHAM, ALA.—The Domestic Electric Co., Frigidaire distributor, announced recently the appointment of Loveman, Joseph & Loeb department store as dealer.

## SHREVEPORT FURNITURE CO. ENTERS RETAIL FIELD

SHREVEPORT, LA.—American Furnture Co., Inc., has been appointed distributor for Copeland refrigerators in this territory.

The company operates one of the larger furniture stores of Shreveport, having entered business in 1913. C. B. Hollis is manager.

## ROYCRAFTERS GET SPECIAL REFRIGERATION TRAINING

MINNEAPOLIS — Electric refrigeration sales and service information is passed on to dealers and salesmen of the Roycraft Corp., Majestic distributor, at regular meetings.

Classes are held every other Monday evening in the Roycraft quarters.



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# Refrigerated Food Section

In Three Parts—Part 2

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## Birdseye Begins Drive In New England States

BY C. G. FAIRMAN

SPRINGFIELD, MASS.—The New England campaign of Birdseye Frosted Foods is on. Retail oulets for the quick-frozen meats and vegetables marketed by this General Food Corp. subsidiary have been established in Boston, Worcester, Nashau, N. H., and other cities within a 100-mile radius of the Massachusetts capitol.

More New England grocery stores are scheduled to receive complete lines of these products within the next few weeks. This campaign, General Foods officials declare, is to be conducted on a strictly commercial basis, and only retailers who can merchandise Birdseye Frosted Foods profitably will be selected.

Thousands of inquiries from grocers throughout New England have been received by Birdseye executives, and during the last several months a careful investigation of these stores has been made with a view toward determining which ones might be suitabie outlets for their products.

Along with the new departure of extending sales of Birdseye Frosted Foods to various parts of New England, there has been a sharp reduction of the number of dealers handling the line in this city, where the pioneering for these foods was begun more than a year ago.

Stores from which the line has been removed recently include the Rood & Woodbury Co., Davidson's Market & Bakery, Davidson's Food Shop, Snyder's Market, Broughton & Fleming, two James Van Dyke stores, three Red Riding Hood stores, and the Market of Holyoke.

Birdseye Frosted Foods are still being merchandised from the six establishments of the Thrift Stores group, by F. W. Jackson, and by Rittermann of Holyoke.

Apparently the best results have been obtained with this line in the Thrift Stores, which handle no other meats than those sold by Birdseye.

A proposal to warehouse all or most of the products in Boston and ship directly from there to the local dealers has met with objections here because it seemed to necessitate carrying more packages in stock than the retailers deemed desirable. In addition, there is a question respecting charges for freight and refrigeration in transit yet to be adjusted.

Delivery service is still being made from local warehouses, and it is possible that some arrangement will be made whereby this arrangement will continue, at least to a limited extent.

## *Maryland Governor Vetoes Frozen Meats Bill*

ANNAPOLIS, MD. — Governor Ritchie has vetoed the bill to place handicaps on the sale of frozen packaged meats which was passed recently by the Maryland legislature.

Inasmuch as the 1931 Maryland legislature has just adjourned, there is no chance for the assemblymen to override the governor's veto on this measure.

## Tom Huston Products Spread Through South

BY GEORGE F. TAUBENECK

COLUMBUS, GA.—Throughout the South Tom Huston's frozen foods are being sold in larger and larger quantities. At present, southern drug stores and confectioneries are the chief outlets for Frosty Morning quick-frozen peaches, bananas, and orange juice. Distribution may be extended to northern markets if the 1931 peach crop is abundant enough, states E. J. Flournoy, sales manager of Tom Huston Frozen Foods, Inc. The needs of present distributors, however, will be protected before any expansion is undertaken.

Today there is scarcely a town in Georgia, Florida, North Carolina, South Carolina, and a section of Alabama which does not have a distributor of Tom's "Frosty Morning" frozen fruit products. Limited sales operations are being carried on in other states.

Distribution is effected through two types of outlets: (1) ice cream manufacturers, who have refrigerated delivery trucks, and who usually control low temperature cabinets; (2) exclusive distributors, who are granted certain territories, in return for which they must supply the retailers within their territories with low temperature equipment, and deliver the frozen products in refrigerated trucks and motorcycles.

Frozen storage houses, from which distributors are supplied, have been maintained at Atlanta, Jacksonville, Florida; Washington, D. C.; Jersey City, N. J., and Chicago. Some distribution has been made in Chicago, Philadelphia and New York City, but not to the retail trade.

In order to get Tom's frozen fruit products into the hands of housewives, it is necessary to work through grocery stores, states Flournoy. Since grocers, as a rule, are not equipped with low temperature cabinets, Huston distributors have been forced to supply them. At present, Frigidaire two-hole ice cream cabinets are being used.

"It would be mighty fine," Flournoy believes, "if 'Frosty Morning' products could be displayed. But sales volume on frozen peaches alone isn't great enough to warrant the purchase of a thousand dollar display case."

One way out of the difficulty, Huston officials think, is the addition of more frozen products to the grocer's line.

Huston men have been working toward that end, and now have, in addition to the frozen peaches, candy-coated frozen bananas, candy-coated peach slices, frozen orange juice, and frozen

(*Concluded on Page 2, Column 3*)

## *Beauty and the Feast*

This good-looking Bishop & Babcock fountain, with its handsome attendant, draws many pretty customers.

## *Druggist Quits Filling Prescriptions To Take Care of Food Business*

By George F. Taubeneck

COLUMBUS, GA. — To opportunist James W. McGeehee, retail druggist of this city, the following gag is no joke—it's a serious statement of conditions:

*First Druggist* (speaking of another druggist, recently deceased): "Poor old Jim. We'll miss him. He was a good scout and a credit to the profession."

*Second Druggist* (hesitantly): "Yes, he was a good scout all right, but don't you think he sliced his sandwiches a bit too thin?"

McGeehee is just as earnest and exacting in the slicing and filling of his sandwiches as his brothers-in-the-trade are about filling prescriptions. In his business, sandwiches and salads and ice cream and cold drinks are the real profit-makers. They receive the most attention accordingly.

Two signs among the multitude in McGeehee's place are significant. One is over a door in the rear of the store. It reads, simply: "Prescriptions."

This sign is in reality a tombstone, a grave-marker. For the prescription department is no more.

Time was when filling prescriptions was an important part of the business. But McGeehee claims that since he has begun serving the inhabitants of Columbus such sanitary and wholesome food, they don't seem to get sick much any more. So he was forced to discontinue a decadent department.

One can still buy Peruna and Tanlac and Lydia E. Pinkham's Vegetable Compound, however. Patent medicines are kept on hand for "them as thinks they're ailin'."

A modest line of toilet goods and other indispensible drug store items can be found. But the chief business of the McGeehee store is food. The proprietor recognized a trend, and met it squarely in the face.

Significant sign No. 2 is hung over the mirror behind the "fount." It reads: "It must be right or no charge." In the McGeehee store the customer is always right. And McGeehee intends that his food shall be so satisfactory that complaints are rarely forthcoming.

Another big sign catches the eye of the customer before it has wandered far. Says this sign: "Our salads are kept fresh in this Frigidaire cabinet."

And there, right behind the soda fountain, is the Frigidaire, a big two-door, 12 cu. ft. box, which has been on duty for some four years. Its nameplate reads: "Frigidaire Made by Delco-Light Corp., Dayton, Ohio." Which proves, of course, that it is an old-timer.

Another Frigidaire compressor is hooked up to the long liquid carbonic soda fountain. In the fountain, bulk ice cream in several flavors, packaged ice cream, and Tom Huston's Frozen Foods are kept. The Frigidaire cabinet contains salads, sandwich materials, and bottled drinks.

A complete noon luncheon is served every day. It is well patronized by business men and women of Columbus.

During afternoon and evening, patrons take considerable advantage of the curb service. Three small boys, attired in white chef's caps and white

(*Concluded on Page 2, Column 4*)

## MICHIGAN PACKING GROUP TO DISCUSS CHERRY SALES

TRAVERSE CITY, MICH.—Ways and means of increasing sales of fresh, frozen and canned cherries will be considered by the Michigan Canners' Association when the packers meet here next month in their annual spring convention.

Michigan packers who are working with the national committee are: John C. Morgan, of Traverse City, president of the Michigan Canners' Association; William P. Hartman, of Grand Rapids, former president of the association; Mark C. Hutchinson, of Pennville, vice-president of the National Canners' Association, and A. J. Rogers, of Beulah, manager of the Michigan Cherry Growers, Inc.

How to increase the number of outlets for the frozen and canned cherries will be one of the questions to be considered at the spring convention.

## PORTABLE BIRDSEYE FREEZER FOLLOWS BERRY HARVESTS

HUMBOLDT, GA.—A portable quick-freezing machine, using the Birdseye plate system, and mounted on a motor truck, is following the harvests of Southern strawberry crops, according to F. B. Garrison, horticulturalist for the Southern railroad.

This machine is operated by the General Foods Corp., which is attempting to discover which varieties of strawberries lend themselves best to quick-freezing.

The quick-freezing is now in operation at Humboldt. B. A. Craddock, Humboldt packer and grower, is cooperating

## *Cooperation, Advertising Stressed Before Convention of Milk Dealers*

By N. Leinke

CHICAGO, April 21.—(Special wire to ELECTRIC REFRIGERATION NEWS)—Urging better cooperation among milk dealers as a means of meeting the present depression, Milton Hult, of the Superior Dairy Co., Davenport, Iowa, addressed the opening session yesterday of the advertising and sales council of the International Association of Milk Dealers in session at the Palmer House.

Among the practices often leading to retailiatory measures which dissipate profits, as sketched by Mr. Hult, are striving for exclusive franchises in caps, bottles, boxes, etc., granting special discounts, offering premiums, commercial bribery, donations to obtain business, increasing butterfats in samples, and misleading advertising.

"Milk advertising and selling, to be successful, should strengthen your company by contributing your share to the community's growth, increasing the per capita consumption of dairy products, and selling the community on the value of the service given," the speaker said.

A dealer organization, he maintained, is essential in meeting these problems.

Dr. F. D. Walmsley of the Borden Milk Co., Chicago, president of the council, opened the session with an address of welcome.

Following the noon luncheon, E. H. Gardner of the J. Walter Thompson Advertising Co., addressed the group on "How advertising can help stabilize American business."

The afternoon program included a debate on the question of whether or not goods other than dairy products should be handled on the milk wagon, defended on the affirmative by Grace Roberts, sales manager of Roberts Dairy Co., Lincoln, Nebr.; and on the negative by J. H. Brickley, of the Detroit Creamery Co.

"Protect your employes against loan sharks," advised Edward V. Mitchell, of the Polk employes credit union, Polk Co., Indianapolis.

An open forum on topics including relation between reduction in milk prices and consumption of dairy products, and the use of chocolate syrup as an aid to milk sales, followed Mitchell's talk.

A short address was given at the beginning of the Tuesday program by L. H. Heller, sales and advertising manager of the Northland Milk and Ice Cream Co., Minneapolis, and chairman of the National Sales and Advertising Section of the Association.

At the Tuesday session, the sales manual film "Milkmen and Money," had its premiere showing.

B. Weitzer of the Business Training Corp., of Chicago, explained to the delegation how a smaller company can use advertising successfully.

W. Z. Foster spoke on radio advertising. The value of advertising to new mothers and newlyweds was discussed by Gabel Risdon of Detroit.

The session closed with an open forum consideration of various advertising appeals and methods which have been used to help hold up sales during the depression period.

# GRAND RAPIDS STORE ADDS FROZEN MEATS

GRAND RAPIDS, MICH.—In the opinion of Matthew Ouendag, quick-frozen foods are the "coming thing." This grocer, proprietor of the retail firm of William Ouendag & Son, is the first to offer Swift Identifiable meats in this city.

Interviewed two weeks after a low temperature case and an extensive line of quick-frozen packaged meats had been installed, Ouendag stated that repeat orders were showing a very satisfactory volume and that the case was already pay for itself.

Upon entering Mr. Ouendag's store a Super Cold case, containing the packaged meats, is immediately visible; and few customers who come in leave without an introduction to the new line of meats.

In addition to at-the-store explanations, Ouendag has arranged for the distribution of hand bills, which reproduce statements from various customers who have tried the Swift cuts and found them to their liking.

So pleased has Ouendag been with the reception accorded his new line of meats that he plans shortly to add quick-frozen fruits.

The Super Cold case he uses is a two-temperature model. Compartment for the quick-frozen meat is kept at about 10 degrees above zero, and a smaller compartment for delicatessen supplies, etc., is held at about 38 degrees.

A Copeland compressor unit supplies refrigeration not only in this case, but in a McCray wall case at the back of the store.

Incidentally, Ouendag's store is a model of the "display" principle. Everything, from canned and packaged goods to fresh vegetables is easily seen; and, if desired, examined by the customer.

Among the Swift Identifiable meats which are available are the following:

Hamburg, calf liver, beef liver, pork cutlets, ox tails, club steaks, sirloin steaks, porterhouse steaks, veal round steaks, round steaks, loin lamb chop, leg of lamb, shoulder veal chops, veal loin chop, pork tenderloin, pork chop, pork, standing rib roast, rolled rib roast, chuck roast, chicken, beef tenderloin.

## HOME ECONOMISTS PLAN MORE DEMONSTRATIONS

ALLENTOWN, PA.—Miss Edwina Nolan, home service director of the electric refrigeration department, General Electric Co., was one of the speakers at the recent meeting of home service economists of the Pennsylvania Power & Light Co.

As a result of the conference, home service directors for the power company decided to conduct more refrigerator demonstrations.

## *Sorting Georgia Peaches at Huston Plant*

Before Tom Huston established his quick-freezing plant at Monezuma, Ga., a great quantity of peaches annually were unmarketable. Now these peaches are frozen and sold in off seasons. Above is pictured a group of workers in the Huston plant, sorting the peaches before they are sliced and frozen.

## SURVEY SHOWS BUSINESS GAINS IN MODERN STORES

LOS ANGELES—A survey of over 300 independent grocery stores and food markets made by the Southern California Retail Grocers Association, shows that as a result of store modernization there has been a volume increase of 20 to 42 per cent in service (cash and carry) stores, and a volume increase of 20 to 50 per cent among credit and delivery stores.

This increase is attributed directly to the store remodelling program sponsored by the association, and which included, in practically every instance, the installation of refrigeration equipment and new fixtures.

## CLEVELAND PROVISION CO. TO ERECT PACKING PLANT

CLEVELAND—Plans for a new packing plant have been announced by the Cleveland Provision Co. The new building, at an estimated cost of $150,000 to $200,000, will adjoin the company's plants at 3378 West 65th St.

The plans call for a structure two stories high, 145 by 150 ft. of reinforced concrete, with concrete floors and steel sash.

Officials of the company state that a complete refrigerating system will be installed in the new plant.

## *Huston Plans More Frozen Products*

(*Concluded from Page 1, Column 5*)

grapefruit juice. Other frozen fruits will be added shortly, and experiments are being carried on with the quick-freezing of vegetables.

Frozen strawberries and frozen figs have been produced at the Huston plant in Montezuma, Georgia. Officials expect an especially good market for frozen figs, because heretofore fresh figs have been unobtainable in many places.

Tie-ups with the merchandising of quick-frozen meats should also help solve the problem of making it profitable for a grocer to own a high-priced low temperature display case, Flournoy thinks. The more quick-frozen products a merchant can sell from one case, the bigger his volume and his profits. Eventually, Huston men believe, all progressive grocers will have adequate low temperature equipment, including display cases.

Retail outlets for "Frosty Morning" products are not limited to grocery stores, however. On the contrary, most of the outlets are drug stores and confectioneries, which already have low temperature cabinets.

Down here in Georgia, peach grocers have ceased to distinguish the years by the letters A. D. and B. C. Now it's A. T. and B. T. (After Tom and Before Tom.)

### Crop Waste Decreased

Until Huston came to bat with his quick-freezing scheme, from 25 per cent to 33 per cent of every Georgia peach crop was thrown away. Now Georgians see a potential market for ALL their peaches, and are rejoicing thereat.

At Montezuma, Georgia, where the freezing plant is located, growers deliver their tree-ripened peaches, which, because they can't be shipped, are not marketable, (albeit they are more palatable than the picked-green varieties to which northerners are accustomed.)

It takes just 35 minutes for one of these peaches to be pealed, pitted, sliced, placed in a container, and quick-frozen. The speed of handling checks oxidation.

The quick-freezing system in use at the Montezuma plant was designed, built, and installed by the Frick Co. of Waynesboro, Pa., under the direction of C. P. Goree, Jr., of the Atlanta office.

It consists of a series of tunnels, thru which a cold blast of air is circulated by a fan, and through which the fruit rides on gravity conveyors.

Ammonia and carbon dioxide are used as refrigerants. Both the ammonia and the carbon dioxide compressor are connected to a common crankshaft, with the driving motor (125 hp., 300 r.p.m.) located between the two machines. Each compressor is rated at 35 tons per 24 hours.

Ammonia is used to cool the cold storage room in which the fruits are placed after freezing, and to condense the carbon dioxide gas as it leaves its compressor. Carbon dioxide is employed to cool the continuous blast of air which is used for quick freezing.

The freezing room is divided into four sections, each insulated with sheet cork, and each fitted with a gravity conveyor. On these conveyors the packaged fruits are placed in wire baskets, piled five tiers high.

After being forced over the carbon dioxide coils, which cool it down to 35 deg. F. below zero, the air is sent downward into the tunnels, over the conveyor of friut, and back up to the cooling coils for another cycle. The plant will freeze 40,000 ponuds of sliced peaches every 24 hours.

The Georgia peach season usually lasts about six weeks, beginning about the middle of June, and ending early in August. During this time several varieties of peaches ripen successfully. Chief among these are the Hiley Belle and Georgia Belle (white peaches), and the Elberta (yellow peach). There is an earlier crop, but the taste of this variety is said to be insipid.

Between January 15 and May 15 the Montezuma plant is kept busy freezing orange juice.

Like the peach crop, many varieties of oranges ripen in successive waves. In turn, portions of these crops are taken to Montezuma, where the juice is extracted, placed in tins, and frozen.

These orange juice tins have enameled linings. Thus the vacuum-packed juice does not come into contact with metal, and may be left standing in the can after opening.

The peach crop is treacherous. Rain, hail, drought, and other Acts of God are likely to interfere with its successful maturity.

Bananas, however, keep growing right along; and should the peach crop fail, the Montezuma plant can be kept busy making Banana Cicles. Banana freezing occupies fill-in positions in the Huston production schedule.

Prices on Tom Huston Frozen Foods are low enough for anybody. Banana Cicles retail for five cents each. So do Peach Pops (coated frozen peach slices.) A quarter-pound peach container retails at 10 cents. Thus a dessert for six persons costs but 30 cents.

Banana Cicles and Peach Pops are eaten in the frozen state, like Eskimo Pies. The peaches—although often served frozen at confectioneries—should be defrosted before eating.

## DRUGGIST TURNS FROM DRUGS TO ICE CREAM

(*Concluded from Page 1, Column 2*)

jackets, run out to meet cars which draw up to the curb. These lads transmit orders to the "fount" and deliver the goods. McGeehee also has an Austin, in which long-distance orders may be delivered.

Coca Cola, of course, is very much in demand. And ice cream. But Tom Huston's frozen peaches and bananas are gaining in favor.

Tom's Banana Cicle, a frozen banana strip coated with chocolate—like an Eskimo Pie—is especially popular.

Toasted sandwiches sell for a dime, and sell well, too. Going strong in all seasons are hot dogs, which are served with a tasty chili con carne dressing. One may purchase two for 15 cents.

Cleanliness and sanitation are stressed in McGeehee's advertising. And proper refrigeration, he admits, has had a great deal to do with the building of his business.

## DAIRY SELLS FROZEN FRUITS

CLEVELAND—Fairmount Creamery Co., one of the largest Cleveland dairy products manufacturers, has added frozen strawberries and cherries.

## GEORGIANS TO MAKE STUDY OF UTILIZATION

EXPERIMENT, GA.—Research into the utilization of frozen fruits and vegetables is the next step for the Georgia Experiment Station, states H. P. Stuckey director of the station.

Experiments in the freezing of various Georgia agricultural products will continue. But emphasis will be laid upon the home economics phase of quick-frozen foods, rather than their production.

"We feel we have learned a great deal about the freezing of fruits and vegetables," Stuckey maintains, "but before these frozen foods can be marketed to any extent, the housewife must know how to use them.

"If she experiments by the hit-or-miss method, and misses, she will likely quit buying frozen products altogether. What we propose to do is to discover just how these quick-frozen foods can be used in the menu, and the pitfalls to avoid."

This work is to be conducted under the direction of Dr. Leah Ascham, who is in charge of the home economics department of the Georgia Experiment Station.

More assistance in this project is needed, both Dr. Ascham and Director Stuckey declare. They would like to engage the services of a research home economist for the summer while the frozen-food utilization experiments are being carried on, but at present lack funds necessary to procure such services.

The Georgia Experiment Station is supported largely by funds appropriated by the Congress of the United States, although it also receives money from the state of Georgia. Appropriations for 1931 will not cover the additional expenditure required to maintain a frozen foods utilization research assistant this summer, according to Stuckey, and it will be necessary to go outside for help.

"All the south is becoming interested in quick-freezing," claims J. G. Woodroof, horticulturalist attached to the Station, and the man who has been largely responsible for the collecting of data and information on quick-freezing for the Station.

"Delegations from many towns visit us to learn more about the quick-freezing of peaches," Woodroof declares. "The curplus peach crop has long been a vexatious problem down here, and this seems to be the best solution brought out thus far."

Recent experiments with the freezing of young dewberries, and with grape pulp, have been quite successful, in the opinion of Woodroof. The freezing of tomato juice will be attempted next. To date experimenters have been unable to preserve the structure of frozen tomatoes, Woodroof states. The freezing of the pulp may be the answer, he thinks.

Among the fruits which have been quick-frozen successfully by the Georgia Experiment Station are strawberries, raspberries, cherries, pears, plums, grapes, huckleberries, figs, peaches, dewberries, blackberries, nectarines, bananas, grape juice, orange juice and grapefruit juice. Forty-eight varieties of the above fruits, and 20 varieties of the three fruit juices have been frozen.

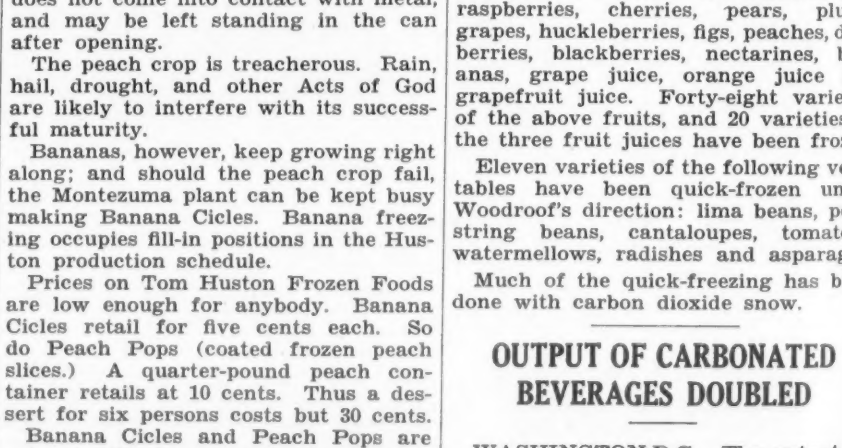
Eleven varieties of the following vegetables have been quick-frozen under Woodroof's direction: lima beans, peas, string beans, cantaloupes, tomatoes, watermellows, radishes and asparagus.

Much of the quick-freezing has been done with carbon dioxide snow.

## OUTPUT OF CARBONATED BEVERAGES DOUBLED

WASHINGTON,D.C.—The output of carbonated beverages has doubled under the Volstead regime, according to the United States Dept. of Commerce.

The use of cereal beverages, such as near-beer, has decreased 63 per cent since 1921. Thirteen billion half-pints, or 100 bottles per capita, were consumed in 1929, as against 6,500,000,000 in 1919.



Tom Huston frozen peaches coming down conveyor line.

# FROZEN FRUITS USED BY WESTERN BAKERS

By H. Dragon,
American Bakery Equipment.

FROZEN fruits are popular with bakers in the West because they enable them to offer their customers good looking pies throughout the year. The flavor and color of the frozen fruit are so near to that of the fresh fruit that the average person is unable to tell the difference between the two, even if he knows the fresh fruit is out of season.

To keep color and flavor, I recommend that the fruits be drawn as needed. It is advantageous to secure berries packed in shallow packages because the fruit is more likely to keep its shape and escape being crushed. In that way, the baker gets every possible advantage of using frozen fruit.

The baker catering to a very high-class trade should use the same method with frozen fruits that he uses with fresh fruits. He should make his pie by adding sugar mixed with starch, bread crumbs, or flour to the fruit and cooking them all together in the pie at a medium temperature.

The amount of sugar to be added brings up two important points. Frozen fruits are packed with sugar, but in varying amounts. Therefore, it is essential that the baker know what percentage of sugar is in the particular brand that he is using so that he may vary his formula.

Another point in connection with sugar has to do with the merchandising appeal. It is well known that there is a great difference in the degree of sweetness desired in different cities and in different sections of the country. This is an important point to find out before you market your "frozen fruit" pies.

### Frozen Apricots Available

Apricots and peaches—and a variety of other fruits—are now being handled in this manner as well as berries. At first apricots didn't work successfully. They turned black and gave a bad appearance and taste to the pie. But now fresh, ripe apricots—but not over-ripe—are successfully used.

Frozen fruits should be used as soon as they are taken out of storage, especially since nearly every baker does not yet have satisfactory refrigeration accommodations.

The baker who is unable to cook all of his consignment the same day as received can keep apricots and peaches for 24 hours without losing the taste of the fruit, if the top of the container is covered with powdered sugar.

This prevents the air from getting to the fruit too rapidly. Of course, this isn't an entirely satisfactory way to do things, but occasionally one is up against it. Frozen fruits should be kept at a much lower temperature than the average baker's "cold room."

### Age Spoils Appearance

Keeping the frozen fruits too long is dangerous and the advantage of using them decreases with the time that they are kept before using. They become soft and lose their shape, and it is more difficult to make your pies have the appearance that they should have. The filling may look like jam, and that's not what the public wants.

In practically all bakeries, the same principle is followed. The fruit is cooked in sugar, and some thickener—starch, tapioca, powder, etc. The amount of fruit added depends on the price that is received for the pie.

Some bakers add salt or citric acid to bring out the flavor, but this is the thing that each baker must decide according to the taste of his customers.

With all berries and fruits the baker should mix the fruit up gently when it is cooking, as it brings out a better flavor. This should be done slowly so that the fruit isn't broken or crushed.

I have found that the less any fruit is cooked, the better the finished product is.

## BULLETIN LISTS FREEZING POINTS OF FRUITS

WASHINGTON, D. C.—Freezing temperatures of various kinds of fruits, vegetables and cut flowers are outlined in the United States Department of Agriculture Bulletin No. 1133.

This bulletin as revised in 1929 lists the freezing points of apples, cherries, grapes, oranges, peaches, plums, strawberries, blackberries, raspberries, cranberries and miscellaneous fruits.

Freezing temperatures of many varities of potatoes, tomatoes, sweet corn, onions, lettuce, carrots, peas and other vegetables are also listed.

## PACKAGED MEAT MARKET CLOSED IN EVANSTON

EVANSTON, ILL.—The de luxe meat market, which was opened by the General Market House Co., at 815½ Davis St. here to handle packaged meats, has been closed after several months' operation.

# *Bloomington Grocer Saves 19 Dollars Monthly*

Grocer Winstead, of Bloomington, Ill., poses beside his Lig-o-nier display case.

* * *

## *Uses Two Ice-O-Matics*

BLOOMINGTON, ILL.—Savings of $19 monthly in refrigeration costs have made Mr. Winstead, who operates a grocery store in this city, a firm believer in the mechanical method of cooling.

Cooling the perishable foods stored in a grocery refrigerator and a Lig-o-nier display case are two model B Ice-O-Matic compressors.

Before installing the electric cooling equipment, Mr. Winstead said, his ice bills averaged about $30 per month. Now the electric bills, including lights for the store, run about $11 per month.

## MEAT INDUSTRIAL GROUPS TRY TO STIMULATE DEMAND

CHICAGO—In order to stimulate the demand for meat, present high values offered are being called to the attention of consumers by associations in the meat and live stock industry.

The National Association of Retail Meat Dealers, the Institute of American Meat Packers, National Association of Retail Grocers, and the National Live Stock and Meat Board are cooperating with other various agencies to move a greater amount of meat into consumption.

The following letter has been written recently to consumers by John Kotal, secretary-manager of the National Association of Retail Meat Dealers:

To the American Housewife:

"I urge you to take advantage of the economical meat prices prevailing at the present time. A combination of circumstances in the meat and live stock industry has worked toward your direct benefit.

"You will find especially economical values in such cuts as the shoulder of beef, the shoulder and breast of veal and lamb, and the fresh loin and shoulder of pork. Meats represent increased values at present levels. Buy now."

Kotal has written similar letters to meat retailers, as has C. H. Janssen, secretary-manager of the National Association of Retail Grocers. Janssen's letter went to 25,000 retailers who have fresh meat departments in their stores.

## JUDKINS ADVANCED BY NATIONAL DAIRY

NEW YORK CITY.—H. F. Judkins has been recently appointed production manager of the National Dairy Products Corp.

He was formerly connected with the General Ice Cream Co., Schenectady, N. Y., a National Dairy subsidiary. At the present time he is chairman of the research committee of the International Association of Ice Cream Manufacturers.

## TRUPAR, SEEGER EQUIP CHICAGO HOSPITAL

CHICAGO—Mechanical refrigeration has been installed in the Lewis Memorial Hospital formerly an old hotel which was completely remodeled.

Several models of Trupar domestic units were installed by the Chatham Heating Co. In the diet kitchens, cafeteria and babies' milk room several models of Seeger cabinets, cooled with Trupar equipment were installed.

## NEW FISHER FOOD MARKETS OPENED IN CLEVELAND

CLEVELAND.—New food markets have been opened by the Fisher Co. at 3250 Superior Ave., 8117 Superior Ave., 11505 St. Clair Ave., 14904 Lake Shore Blvd., 14601 Woodworth Road, 625 East 185th St., 1387 Hayden Ave., 8914 Wade Park Ave., 5405 Euclid Ave., 2192 Noble Road, 3962 Mayfield Road, 6504 Detroit Ave., and 4284 Pearl Road.

## FOOD STORES RANK FIRST IN WASHINGTON CENSUS

WASHINTON, D. C.—Retail business in this city in 1929, according to figures compiled from the 1930 Distribution of Census, was in excess of $331,000,000, of which the food store group was first in total sales.

Food stores numbering 2,369 reported total sales of $81,857,816, or 25 per cent of the total retail business. Of this number, 533 were grocery stores with sales of $14,369,424, while 215 were meat markets with sales of $4,131,801.

Grocery stores with meat departments, of which there were 1,036, reported sales of $42,770,878.

Of the 1,784 grocery and meat stores, 1,235 were single-store independents with sales of $29,183,498.56 were multi-units with sales of $2,746,028, and 493 were units of sectional and national chains doing a business of $29,342,577.

Operating expenses of the stores in the food group were shown to be 19.92 per cent of sales. The food stores in this city employed 4,611 full-time and 1,092 part-time employes.

## AKRON ROADSIDE STAND EQUIPPED BY WADSWORTH

AKRON, OHIO—George Wadsworth five times a member of the Frigidaire B.T.U. Club, and who was recently named manager of the Akron Frigidaire Sales, has just equipped the Canteen roadside eating place.

Previous to the Frigidaire installation this spring, the manager of the Canteen said he had a $90 a month ice bill, after taking his discount.

Wadsworth equipped the restaurant with two 1½ h.p. compressors, one ½ h.p. compressor, and one 1-3 h.p. compressor.

Two 6x8 meat and vegetable coolers, 3 water cooling tanks, 1 short order box, 2 kitchen service refrigerators, 1 short order box, a 6-hole ice cream cabinet, and an 8-flavor pope servitor are cooled by the compressors.

Recently the Frigidaire retail store installed a 6-hole ice cream cabinet and a soda fountain in the million dollar Y. M. C. A., which was opened a short time ago. An 8-hole ice cream cabinet was placed in operation in the new million dollar building built by the Y. W. C. A. and opened three weeks ago.

## SMOKED FROZEN FISH KEPT IN COPELAND COOLER

NEW HAVEN, CONN.—Cooling equipment has been installed in the storage rooms of the New York Smoked Fish Co. to keep frozen smoked fish in prime condition, by the New Haven Electric Co.

The equipment consists of a Copeland X compressor and four 8-ft. Copeland zero tubes to refrigerate a walk-in cooler 10x10x9 ft. in dimensions.

An X compressor with Copeland-Larkin coils has been placed in Perkins Market to cool a 7x7x10 ft. walk-in and a 12-ft. display case.

# OMAHA TRUCK FIRMS USE REFRIGERATION

OMAHA.—Electric refrigeration is used by two large trucking companies doing business both in Omaha and Lincoln.

Milo Fitle, owner of the Acme Auto Co., a concern valued at $90,000, operating 18 of the larger sized trucks, now has two of his trucks fitted with Frigidaire cooling equipment.

Th Red Ball Transfer Co. has one truck fully equipped with Frigidaire and will shortly add the second unit.

Refrigeration compartments on these trucks are 7x7x14 ft. and have a capacity of 30,000 pounds of meat.

The refrigeration unit is outside the truck box and fastened to the front, just behind the drivers cab.

Watson Bros., operating a line of thirty trucks between Omaha and Kansas City and between Nebraska City and Lincoln, have contracted for one of the units to be placed in one of their larger tractor-trailers.

The Serve U Transfer Co., engaged in hauling between Omaha and Des Moines, has also contracted for a unit for their truck carrying a box 7x7x18 ft., 4 ft. longer than the other trucks.

Meat transportation makes up a large part of the Acme company's business, it having a contract with one of the larger packing companies of Omaha.

About 880,000 pounds of meat are trucked each month within the city, and 225,000 pounds each month from Omaha to Lincoln, a distance of 65 miles.

The arrangement inside the truck allows full quarters of meat to be hung to the top and sides, while heavy boxes find a place on the floor beneath the hanging meats.

In this way it is possible to haul as much as 30,000 pounds in a box 7x7x14. To carry a larger load it would be necessary to add a trailer, as this is the weight limit in Nebraska for one vehicle.

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## Frozen Foods Association

FOUNDED in good faith by a group of people having a cooperative turn of mind, the Frozen Foods Association of America is now attempting to promote the development of a new art and a new industry, which has almost immeasurable possibilities for valuable service to the public.

It is the opinion of ELECTRIC REFRIGERATION NEWS that this organization deserves the support of all the factors in this infant industry, and that, given the proper backing and cooperation, it should fill its niche and justify its existence.

Efforts are now being made, it is reported, to organize a second frozen foods organization. Such a move, many of those familiar with the problems of this industry will agree, will only serve to muddle a situation which needs clarification and intelligent direction.

The solitary excuse brought forward for starting a rival group is that the association formed recently in Atlanta does not have as yet certain important companies on its roster, and thus is not truly representative of the entire industry.

### *Long, Patient Effort*

Anyone who has had any experience with industry associations knows that long and patient effort is necessary to bring together the type of dominant and self-confident individuals who usually pioneer any worthwhile development. It would seem to be the part of ordinary good business judgment to give the officers of the Frozen Foods Association of America a reasonable length of time to work out a program before an attempt is made to launch a rival organization.

Factional fights will not help further the progress of an industry which needs united and wholehearted and prodigious efforts to overcome certain obstacles which face it. The good graces of the general public, which quick-freezing interests are trying so hard to win, will not be successfully wooed by an industry which is at odds with itself and which may be travelling in divergent directions simultaneously.

### *South Sold on Idea*

In the South, where the Frozen Foods Association of America was cradled, frozen foods are perhaps viewed with more favor than any other section of the country. The quick-freezing of peaches has solved an age-old, irritating problem for southern agriculture—the profitable disposition of its huge surplus peach crop, which annually has been left to rot away. This dramatic new method of making these surplus peaches marketable has caught the public fancy down there, and a demand has arisen for all available types of quick-frozen foods.

H. P. Stuckey who, as director of the Georgia Experiment Station, has led the frozen foods movement in the South, is president of the Frozen Foods Association of America. He is devoting practically all of his time and energies to quick-freezing research and promotion, and has succeeded in selling an entire section of the nation on the idea of frozen foods. Support and cooperation are undoubtedly his due.

If, in time, the Frozen Foods Association of America proves itself unable to do the job it has set for itself, and if the need for an organization of its kind still seems apparent, then it may be advisable to devise ways and means of forming another. At present, it would seem that the best interests of the quick-frozen food industry would be served by adhering to and cooperating with the association now in the field.

* * *

## Utilization Projects

HOUSEWIVES must be satisfied with the results they get from using quick-frozen foods, or the efforts of this rising young industry to gain wide public acceptance may strike a few unwelcome snags. If quick-frozen meats, fruits and vegetables are not sold with explicit instructions as to their proper use in the preparation of meals, there is nothing for the cook to do but experiment. And if, in her hit-or-miss experimentation, she misses and gets unsavory or unappetizing results, it may be difficult to sell her these foods again.

Quick-frozen foods now produced are generally conceded to be of eminently satisfactory quality, and it is not likely that most housewives will go far wrong in the use of any of these products. Even so, better results will undoubtedly follow the use of certain culinary methods, and to gain public favor the wise merchandiser of quick-frozen foods will see to it that customers are provided with the best available information on the subject.

### *Research Data Needed*

At present very little research data concerning the utilization of quick-frozen foods is at hand. Many home economics kitchens have experimented in a more or less desultory fashion with quick-frozen meats, and have succeeded in working out valuable suggestions for their use. A task of considerable proportions, however, remains to be done.

Down at the Georgia Experiment Station, where H. P. Stuckey, J. G. Woodroof, and their associates have been making great strides in the development of production methods for frozen fruits, plans are being laid for utilization research on a big scale. They believe that this problem is rapidly becoming the most important one facing the industry, and want to be prepared to furnish all comers with rules, suggestions, and recipes for the use of quick-frozen fruits and vegetables in the kitchen. Financial help will be necessary, however, before trained home economics research workers can be hired to carry the project to fruition.

### *Additional Lines*

The development of complete lines of quick-frozen fruits and vegetables—together with utilization information which will enable housewives to see these foods at their best—may be a great help to the retailer who can't quite see his way clear toward a heavy investment on low temperature display equipment for quick-frozen meats.

These additional lines mean additional volume, and additional profits, with the same equipment he would need for the packaged meats. Thus the retailer may be able to make his investment pay good dividends.

Research is the watchword for the quick-freezing industry, and utilization should be the next phase it considers.

## GLEANINGS
### FROM RECENT PERIODICALS

"To Stockton, Calif., where 20 retail druggists had been pursuing the even tenor of their ways according to the recognized ethical rules of the trade came a cut-price retailer who threatened for a time to disrupt the orderly conduct of things until the 20 quietly combined to open a cut-rate store of their own—the 'Bedrock Store'—to which they consigned odds and ends, close-out lines, discontinued lines, low-price items and some regular merchandise to serve as leaders. Soon the store was doing a flourishing business which was distinctly cut-rate. Thus the town's druggists provided some very effective competition for their unwelcome rival without having to descend to cut-price tactics in their own stores."—*Drug Topics.*

"One of the points on which there is a great lack of information and often much misinformation is the relative cost of operating a service business and a cash-and-carry business under the same conditions. Recent surveys have shown that that difference is very little and becomes a matter of efficiency in operation, with virtually no advantage shown of one over the other. In Louisville a grocer with 85 per cent of his business in cash-and-carry has an operating expense of 16.7 per cent of sales while another whose business is 90 per cent delivery operates at 17.2 per cent. Both stores have meat departments, which tend to increase operating costs. In another part of the city a grocer, with a meat department, giving full service on a volume of $50,000 yearly, operates on 14 per cent."—*Progressive Grocer.*

## *An Editor on Wheels*
**Stories of Interesting PLACES in the Refrigeration Industry**
*By* GEORGE F. TAUBENECK

### *Atlanta, Ga.*

A few moments of careful measuring and studied manipulation followed my request for a "chocolate malt." In due time the "malt" was dished up. It was a good one, and I said so.

"Thaenk yuh kahndly, suh," beamed the grinny young man who had concocted it. "We don't get much pra-actice makin' 'em daown heah. We Suthenuhs don't drink 'em much. Y'can always tell a Nawthenuh 'cause he genally awduhs a malted milk."

"And what do you folks drink?" I inquired.

"Mostly Coca Cola," was the answer.

And so they do. A very good variety of Coca Cola (the taste varies in different cities) it is, too.

Atlanta is the home of Coca Cola, and is perhaps better known for that thirst-quencher than for any other one thing. A claim or two might be entered, however, for Bobby Jones.

The great Bobby, holder of every major golf title, is a perpetual source of pride—and conversational material—to Atlantans.

In localities not blessed with so noted an international figure, the weather is the common conversational life-saver. In Atlanta, it's Jones.

One of the highest paid sports writers in the country, O. B. Keeler, makes his money by trailing Jones like a shadow and setting down everything he does. He would like to be Jones's Boswell, too, but Bobby doesn't talk enough.

Keeler is not only a civic asset because his syndicated column, spreading the good word about Jones and Atlanta, is printed in almost 500 newspapers, but because he is probably the only man alive who has in his possession all of the unprinted poetical exuberances of Eugene Field.

He has memorized this rare collection of erotica, and can send almost any banquet into convulsions with his recitations.

Another noted sports scribbler from Atlanta, Bill Munday, is even better known as a radio announcer. He has the perfect Southern drawl, and cashes in on it for all it's worth.

That lip-lazy, liquid southern drawl possesses more charm and fascination than any mutation of English I have ever heard.

The Yankee drawl is harsh, dry, and nasal when compared with "English as she is spoke" in the South. The far-western variety is not altogether unmusical, but it, too, is harsh and crackling in comparison.

All of the romance engendered by the South in the days of crinoline and pantalettes, of bustling plantations and Virginny reels, is contained in five minutes of a southern girl's talk.

The blurred consonants and the grand pauses on vowels are dissolved into a musical lilt that has almost as much genuine melody in it as has properly turned Italian.

That drawl is expressive of the southern spirit. Unhurried, beauty-loving, joyous, romantic, and blessed with a sense of humor, the typical Southerner makes life a perpetual playtime.

True, he can and does work hard. But in place of that grim, relentless drive of his northern cousin, is a more or less easy-going, buoyant, singing attitude.

Southern girls are brought up to be neither learned nor useful (although some are both, in spite of everything) but ornamental. They expect service, are accustomed to gallantry, and altogether have a very good time out of life.

Atlanta itself is possibly the most northern in spirit and movement of southern cities. Certainly it is as businesslike, as direct, and as fast-moving as ever a Chicagoan could want.

Superimposed upon the glamor of old southern mansions, with pillars and darky servants, is a structure of business life which makes Atlanta seem like home to a visitor from any northern metropolis.

Business buildings are not especially tall, but they are strictly modern in equipment. Traffic moves at a rapid pace. Good theaters, and plenty of other commercialized amusements (including the world's largest bowling alleys), fill out the downtown district.

Residential sections in Atlanta occupy a great deal of space. Home-owners are accustomed to having trees and grass around their dwellings, and demand both.

On the outskirts of the city is located the Georgia Institute of Technology. Coach Bill Alexander has brought a number of Georgia Tech football teams into nation-wide prominence, and promises to elevate more of the same.

Other educational institutions include a number of private schools for girls. Young women flock down from the North in great numbers to attend these schools.

A few miles outside of Atlanta is Stone Mountain, a huge granite monadnock which looks for all the world like a mammoth dinosaur egg laid in the middle of a plain.

Eventually, it is hoped, sculptor Lukeman will finish carving a gargantuan relief of confederate leaders upon one side of this great boulder. Bickerings and lack of funds have held up the completion of this ambitious task for almost two years.

At present, Stone Mountain is a big bump of bare, water-scoured granite, with a huge gouge cut out of its cheek. In the gouge is a clearly recognizable head of Gen. Robert E. Lee, together with less clear profiles of Jackson and Jefferson Davis.

Some day the whole Confederate army will go marching over the top in bas-relief. A glorious conception.

The "Georgia Cracker" (native darky) is an interesting specimen of humanity.

There are all kinds and color variations and shapes and sizes; but all groups have two characteristics in common: (1) they are all slow-moving, or else entirely motionless; and (2) they are all ebulliently happy.

Big bucks meditating in solitary grandeur against friendly telephone poles, gossiping women in straw bonnets with hatpins conspicuous, flapper gals sporting flashy Woodworth replicas of Greenwich Village earrings, young love in gingham and blue denim walking hand in hand oblivious of surroundings— the kaleidoscope is endless.

From a distance it is often difficult to distinguish a "Georgia Cracker," laboring in the fields, from the high stumps found there. There is one sure test, however. If it moves, it's a stump.

Food in Atlanta—if you know where to go—is a genuine treat. Southern cooking has a dash and season all its own.

Cornbread and chicken may be a homely combination, but it's a dish no French chef can make well, and it's mighty good eating.

* * *

### *Columbus, Ga.*

"One of the most beautiful cities in the South." Columbus has that reputation, and it deserves it.

An old-fashioned Southern town it is, with every stone and every blade of grass in the same place it occupied before the first detonation at Fort Sumter.

Frame houses, brick store buildings, age-blackened church edifices—all are hoary with antiquity and encrusted with memories. Most of the buildings have stood for decades piled upon decades. Stories can be told about all of them, and inhabitants are only too glad to relate them to visiting ears.

Noteworthy are the expansive streets. Some of them, called "double streets" by the inhabitants, are real boulevards, with wide center strips dotted with trees.

Joyce Kilmer, who thought she would never see "a poem as lovely as a tree," should be as happy in Columbus as an Angora tabby in a bale of catnip.

Between houses and streets are two and sometimes three rows of trees. On boulevards which have three rows of trees on each side of the street, one row runs between houses and sidewalks, while a double row parades royally down the wide stretch of grass between sidewalk and pavement.

The vista thus afforded in the full bloom of spring is almost breath-taking.

At least 30 per cent of the population of Columbus are colored. They appear to be such complete children that one begins to understand why the South

(*Concluded on Page 5. Column 1*)

# A PAGE FOR HOME SERVICE WOMEN

## PALATABLE SALADS ENHANCE DINNERS

By Phyllis K. Dunning
Home Service Department
Society for Electrical Development, Inc.

AT THIS time of the year, a lusty salad has its place on the dinner menu in the home. The specially designed containers for mechanical refrigerators make it possible to keep vegetables on hand in a crispy state.

Here are a few of my favorite recipes for salads, and, as Ben Bernie says, "We hope you'll like them."

**Endive Salad Supreme**

Endive
1 hard cooked egg
½ canned pimiento
1 very small onion
½ snappy cheese
1 stalk celery
French dressing

Wash the endive and put it into the vegetable compartment of the electric refrigerator to become cold and crisp. At serving time dice the egg, add to it the pimiento cut up fine, the onion minced, the cheese crumbled, and the celery chopped fine.

Add a quantity of French dressing, sufficient to dress the number of salads you are to serve. Mix well, arrange the endive on a salad plate and pour over it the salad dressing. This salad is equally good as a separate course or as an accompaniment to the meat course.

**Cream of Tomato Salad**

1 cup concentrated canned tomato soup
½ pound cream cheese
2 tablespoons gelatin
½ cup cold water
1 cup mayonnaise
1 cup chopped celery
1 chopped green pepper
1 minced onion

Soften the gelatin in the cold water. Bring the soup to a boil and add the cream cheese, stir until cheese has dissolved and add the gelatin. Chill and add the chopped vegetables and mayonnaise.

Set in electric refrigerator to stiffen. Serve on lettuce leaves with a garnish of stuffed olives.

**Prize Chiffonade Salad**

½ pound endive cut in ½-inch strips, equal quantity of shredded lettuce
1 chopped beet
1 small chopped onion
12 stuffed olives, cut fine
½ green pepper, chopped
1-3 green pepper, chopped
French dressing
2 stalks celery, chopped

Mix together the endive, lettuce, onion, green pepper, cheese and celery. Cover and place in electric refrigerator until serving time. (If possible, place in the vegetable compartment, as here the vegetables will attain the ultimate in crispness.)

At serving time add the chopped beet and mix with French dressing. Serve on salad plates and accompany with Melba toast, bread sticks or toasted crackers.

## Editor on Wheels

(*Concluded from Page 4, Column 5*)

has been loath to extend the voting franchise to them.

Near the Tom Huston peanut plant is one of the finest school buildings "yo evah laid yo eyes on." It is packed with pickaninnies. Which does not seem to be indicative of shabby treatment of the negroes by "white folks."

"We can't do without them, so we take care of them," one Columbus resident explained. "But we keep them in their place. We don't associate with them."

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At the Huston plant dozens of negroes are employed. In one part of the plant is a roomful of colored women, all busily at work sorting out and discarding culls from a belt line of peanuts which passes them.

While they labor they sing—or rather chant—old spirituals. Dozens of voices, blended in genuine plantation harmony, uplift themselves in the plaintive, minor-key folk songs of a transplanted race seeking supernatural surcease for earthly woes.

---

They do not sing all the time, but just as the spirit moves them. Nobody calls out, "number 13 in the red book," nor does anybody strike a pitch-note. The singing simply begins—and ends.

Huston men have learned that these negro women work efficiently when they sing, poorly when they talk. So they are allowed to sing, but they can't talk.

## *Cooking School Nets 10 Sales*

Miss Gertrude Janssen, of the Kelvinator Home Economics Department, presided at a recent 5-day cooking school held in Johnson City, Tenn., by the Smith-Miller Co., Kelvinator distributor. Seven refrigerators were sold during the meeting, with 3 additional sales closed later.

## COLD STORAGE PROLONGS McINTOSH APPLE SEASON

DURHAM, N. H.—The eating season for McIntosh apples can be kept open from harvest until the following summer by means of cold storage, finds E. J. Rasmussen, research assistant in horticulture, in a recent series of investigations at the University of New Hampshire agricultural experiment station.

For keeping up to Christmas, common storage seemed best, since it gave the apples opportunity for further ripening; but for holding from January to June, cold storage at 30 degrees proved most satisfactory as far as firmness is concerned and at 32 degrees where flavor is considered.

Pre-cooling the apples down to a 30 degrees temperature as soon as possible was found to improve considerably the keeping quality. It was found that there should not be more than five days from tree to storage for successful handling however.

No difference in keeping quality of McIntosh from different orchards could be detected, even though one lot was from a sod orchard and another from a cultivated one.

With Baldwins there was a fairly marked difference. Ground color, the green or yellow undercolor of an apple, and pressure test are not always an indication of the best keeping quality in Baldwins.

Losses in weight in cold storage were insignificant.

## R. Cooper, Jr., Organization Augments Home Service Activities In Suburban Cities

CHICAGO—Home service activities have been augmented by R. Cooper, Jr., Inc., distributor for General Electric refrigerators.

Many dealers recently have had the benefit of lectures and demonstrations staged by the home service department in various towns. Miss Nellie Snavely, home service director, has conducted demonstrations in the Illinois Northern Utility territory, covering such towns as Belvidere, Marengo, Harvard and Genoa. Miss Kelly, her assistant, has been in LaGrange, McHenry, Joliet and Morris.

Obtaining the users' point of view forms a valuable aid in future sales of electric refrigerators. That is the theory upon which the Cooper home service department operates. Miss Snavely places especial emphasis upon contacting the user, believing that "satisfied users mean more sales."

Among her activities are home demonstrations by appointment; tenant demonstrations to one or more tenants of an apartment building, branch store demonstrations, club demonstrations, dealer opening demonstrations; co-operation with other product companies in promotional ideas; and lecturing at special shows.

Miss Snavely gives a number of demonstrations in homes where the General Electric user invites her friends. She also makes suggestions for the preparation of desserts, and on her visits to users she leaves a leaflet containing her own recipes. She gives suggestions for the proper storage of foodstuffs in the refrigerator and as to how to obtain the maximum use of the product.

Wherever possible, calls on users are made from three to five days after an installation. In this way, users are given information at the start as to how to get the most service from the product.

Some of her recipes which have met with much favor among users are:

**Maple Parfait**

½ cup maple syrup
2 eggs
½ teaspoon salt
1 cup whipping cream
½ teaspoon vanilla

Scald syrup. Beat egg yolks and add to the heated syrup. Cook 2 minutes. Cool. Beat egg whites stiffly. Fold custard into whites. Whip the cream, add vanilla and fold syrup into cream. Freeze three or four hours. Do not stir. Serves 6 to 8 people. Chopped marshmallows or chopped nuts are delicious when added to this mixture.

**Mousse**

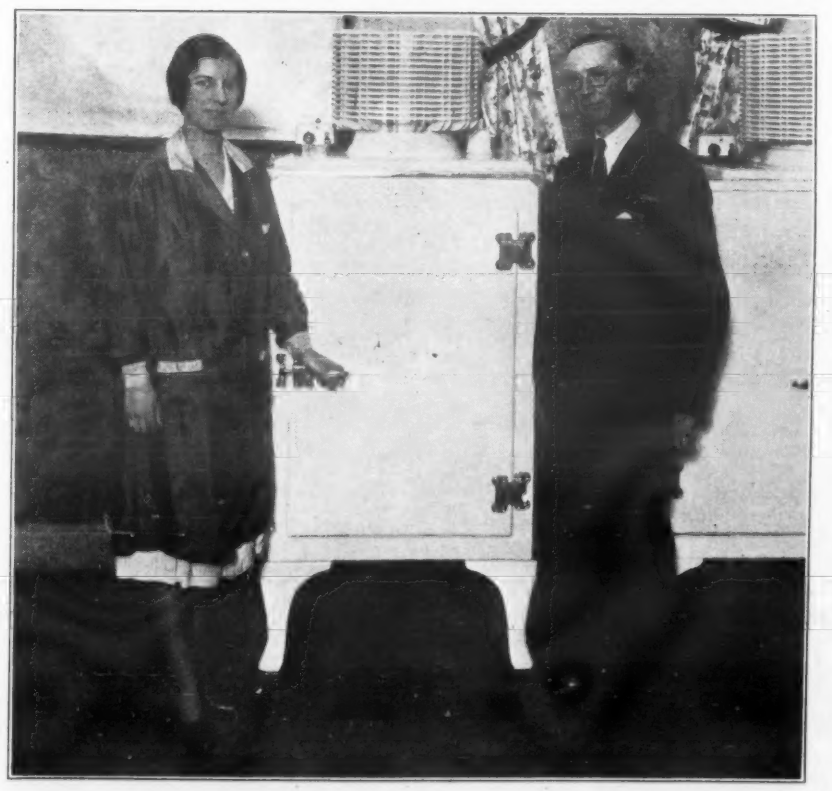
qt. cream (XXX)
1 qt. fruit (extract juice) No. 2 can
⅛ teaspoon salt
1½ teaspoon vanilla
½ cup sugar

Whip cream, add salt, sugar, fruit and vanilla. Serves 20 persons.

**Grape High Ball**

One cup lemon juice, 2 cups purple grape juice, sugar to sweeten, grated orange peel, seltzer water to make 1½ quarts.

## *Demonstration Stimulates Business*



Home economics sessions produce prospects and sales.

* * *

## *286 Women Attend*

NEW ORLEANS—At six afternoon sessions, attended by 286 women, 48 live prospects were booked and 7 electric refrigerators were sold at a recent demonstration in the D. H. Holmes department store here.

The talks, illustrated by moving pictures, were given by Mrs. Ruth W. Oswald, home economics expert.

Advantages of electric refrigeration was the chief topic and frozen dainties were served as light refreshments.

Mrs. Oswald also spoke on the care of the refrigerator and uses of food containers.

## REFRIGERATION AIDS FOOD PREPARATION

By Marion F. Sawyer
Home Economics Department
Kelvinator Corp.

HOUSEHOLD tasks should be made a means to an end, rather than an end in themselves. Housewives have found that the electric refrigerator greatly simplifies the task of food preparation.

Marketing may be done well in advance and food enough for an army, should one decide to descend on you, may be stored safely within its protecting walls.

Frozen desserts or salads for dinner may be prepared in the morning, or they may be made and kept on hand, simply for the unexpected guest. And in the low temperature tray one may even keep "quick-frozen" steak or chops for weeks, just so you will have them on hand in case of an emergency.

The following luncheon menu and the recipes were prepared in the Kelvina-Kitchen:

**Luncheon**

Frozen salmon loaf
Parslied potatoes Tea biscuits
Brussels sprouts
Hollandaise sauce
Carmel jelly Orange Pekoe tea

Frozen Salmon Loaf: 6 cups flaked salmon, 1 teaspoon salt, ¼ teaspoon pepper, ½ teaspoon paprika, 1 tablespoon gelatin, ¼ cup cold water, ¼ cup vinegar, 2 tablespoons Worcestershire sauce.

Remove skin and bones from canned or fresh cooked salmon. Separate into flakes, add salt, pepper, paprika and Worcestershire sauce. Soak gelatine in cold water, dissolve in hot vinegar and add to the salmon. Pack firmly into Kelvinator tray and freeze for two hours.

Carmel Jelly: 1 tablespoon gelatine, ¼cup cold milk, ¼cup granulated sugar, ¼ cup water, ¼ cup sugar, 1½ cups hot cream. ¼ teaspoon salt, chopped nut meats. Soak gelatine in cold milk.

# NEW DEVELOPMENTS IN ICE CREAM EQUIPMENT

## NEW CABINET STORES, FREEZES ICE CREAM

CHICAGO—Production of a combination ice cream mixer, freezer and storage cabinet has been started by the Diamond Glass Specialties Co., according to an announcement by Roy Silverman, president of the company and designer of the new machine.

Six sizes at the present time make up the new line. Models with capacities of 25, 35, 45, 55, 65 and 75 gallons of ice cream are offered.

This combination cabinet, the designer stated, will double its capacity in a 24 hour run, so that with a 25 gallon freezer, a dealer can produce 50 gallons of hardened cream in 24 hours. To make a batch of semi-hardened cream requires about 10 to 15 minutes.

To make ice cream the dealer places a 5 gallon can in the compartment next to mixing machinery, which is located at one side of the cabinet. A double dasher is set in the ice cream can, connected and held in position by the cover of the container.

The sliding gear, which is mechanically driven, is next in position so that it meshes the two gears which operate the dasher in opposite directions at a speed of 250 revolutions a minute.

According to Mr. Silverman, any type of refrigerating unit may be used with the machine, and in tests a ½ hp. compressor handled the freezer efficiently.

All models are trimmed with Monel metal, Formica or porcelain enamel paneling.

## DELIVERIES INCREASING IN PORTABLE CABINETS

ST. LOUIS—Deliveries of the one hole, portable ice cream cabinet recently added to the line manufactured by the C. Nelson Mfg. Co. of this city are proceeding at a rapid pace, according to officials of the company.

The new model is of the self-contained type with a ¼hp. compressor unit installed in the base compartment. Although designed primarily for brick ice cream storage, the interior construction enables it to be used for a serving cabinet for bulk ice cream.

Ten gallons of brick ice cream can be stored in the cooling compartment. When used with bulk cream, one 5 gal. can or two 3 gal. cans can be inserted into the cooled section.

The cabinet, including base compartment, is compact, measuring 20½ in. wide, 20½ in. deep and 43 in. high.

In addition to this model the Nelson company makes a line of electrically refrigerated ice cream cabinets.

### ENTERS CHICAGO FIELD

CLEVELAND—Canned whipping cream has been recently introduced in the Chicago area by the Pantry Cream Sales Corp.

## *Ready for the Field*

Copeland-Consolidated Ice Cream Cabinets undergoing final adjustments prior to shipment to dealers.

## OHIO MERCHANT DELIVERS FROZEN ORANGE JUICE

CLEVELAND—Ramsdell's store has begun the delivery of frozen orange juice, which sells at 25 cents a pint and $2.69 for the dozen pints, through hourly delivery service throughout the city.

This store, which features fine foods and quick service, is located at 12405 Cedar Road.

Ramsdell's decision to merchandise the frozen orange juice follows the recent announcement of the Telling Belle Vernon Co. that it would handle this product on milk routes.

The Telling company is retailing frozen orange juice to consumers at 23 cents a pint delivered.

### TWELVE DISTRIBUTORS TAKE PART IN KANSAS CITY SHOW

KANSAS CITY, MO.—Twelve makes of electric refrigerators made up the exhibits at the Refrigeration Show held here by local companies in the new transportation building of the Kansas City Power & Light, April 13-18.

Local companies which took part in the show were: the Columbian Electric Co., (Westinghouse); Copeland Refrigeration Co.; Glueck & Co. (General Electric); Jenkins Music Co. (Ice-O-Matic); Leightner Plumbing & Heating Co. (Zerozone); Norge Co. of Missouri; Parsons Electric Co. (Frigidaire); Richards & Conover (Mayflower); Ryan Radio Co .(Majestic); Townley Metal & Hardware Co. (Wayne); and the Western Kelvinator Co.

The Kansas City Power & Light Co. cooperated with the distributors.

## Knowles, Marine Now Selling Zeroviz

GRAND RAPIDS, MICH.—W. H. Knowles and R. C. Marine have joined the sales force of the Grand Rapids Cabinet Co. of this city, according to an announcement by W. L. Malloy, sales manager of the company.

Mr. Knowles, who was formerly with the Universal Cooler Corp. of Detroit, and Mr. Marine, who was with the York company, will represent the Zeroviz low temperature display and storage cases for ice cream and other frozen foods, and the Grand Rapids line of mechanically refrigerated ice cream cabinets.

## Meyer-Smith Enjoys Good Commercial Business

BUFFALO—Meyer-Smith Co., dealers in supplies for soda fountains, restaurants and markets, report that business in this territory is better than normal. Recent installations of equipment have been made for a number of companies.

At Dinty Moore's, a restaurant located on West Chippewa St., the company installed an 8 ft. Hill delicatessen case, a 1-3 hp. Kelvinator compressor and an X5-40 coil.

In the La Clair Bakery at 128 Grey St. a 6 ft. Hill delicatessen case, equipped with a 75 F Frigidaire coil and 1-3 hp. compressor were installed. Mr. La Clair is using the case for various kinds of sausage for which he has built up a big demand.

The Buffalo Trap and Field Club ordered ½ hp. Frigidaire compressor and a Model 7100 Gibson refrigerator, which is to be used for salads.

A 4-hole Frigidaire ice cream cabinet and a ¾ hp. Frigidaire compressor, which will coolthe water for the various dining rooms of the club were also installed.

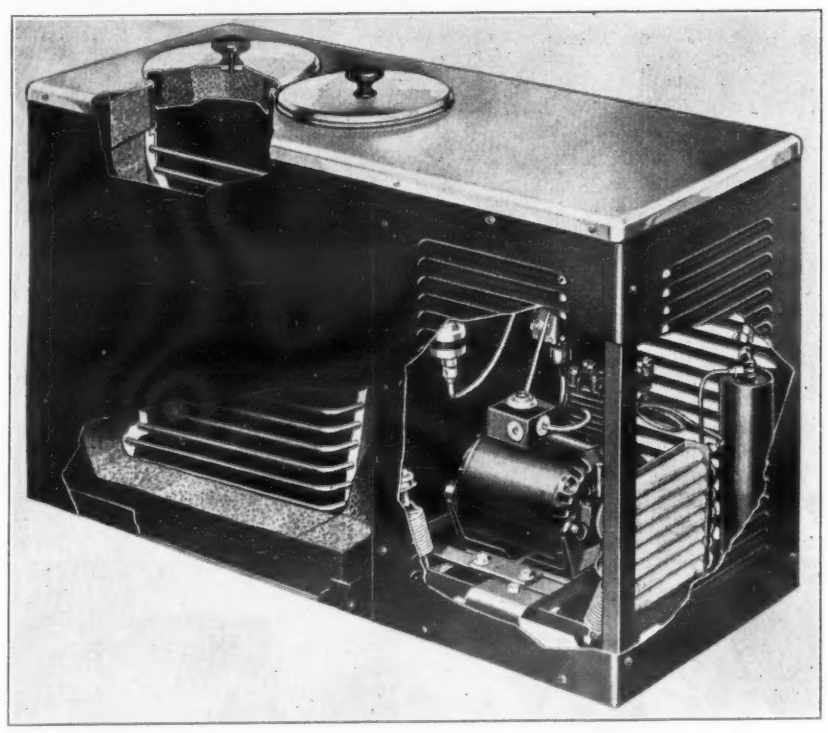
M. A. Sherer had an 8 ft. meat display case, a Frigidaire compressor and a 76 F coil installed in his store, located at Sycamore and Pratt Sts.

F. Podsiadlo's store at Depew, is newly equipped with 10 and 12 ft. Ligonier display cases, which are Kelvinator refrigerated.

Moll Brothers, of Gowanda, N. Y., purchased 10 ft. and 6 ft. Legonier meat cases, which are refrigerated by a York ammonia system.

The Larkin company's store at Seneca and Van Rensselear Sts., has been equipped with a 22 ft. soda fountain and a ¾ hp. Frigidaire compressor.

## *Kelvinator Portable Cabinet*



Two-hole portable model in the ice cream cobinet line manufactured by the Kelvinator Corp. of Detroit. A special compartment at one end of the cabinet houses the condensing unit.

## CONSOLIDATED CASES USE COPELAND UNIT

MT. CLEMENS, MICH. — The 1931 line of Copeland-Consolidated ice cream cabinets, manufactured by the Consolidated Soda Fountain Corp. of Greenville, Mich., and employing condensing units built by Copeland Products, Inc. has been announced. The complete equipment is merchandised through the dealer organization of the Copeland Sales Co.

Cylindrical sleeves hold the ice cream cans with cold brine circulating around the sleeves for hold-over and uniform temperatures throughout the cabinet. This brine, in case of any interruption in the operation of the refrigerating unit, holds the temperature down for a long period and prevents spoilage and melting of ice cream.

Cabinet frames are made of heavy angle iron welded at all joints. The frames extend from bottom of cabinet to a point just underneath the Monel metal top, allowing cork insulation to the full height of sides and over all width.

Insulation is of Armstrong 3 in. cork on sides and 4 in. on bottom, with ⅜ in. insulating board next to panels and water proof paper between all layers of cork and tank.

Tanks are heavy copper, double lock seam, sweat solder and brine paint coated. Top of tank is sealed tight to prevent spoilage and odors.

The special insulated top grid underneath Monel top allows greater space for insulation. This top cuts down heat leakage and keeps the ice cream at the top of the can in better condition.

Standard models have Monel top, corner trip and legs. The legs besides giving to cabinets, allow for air circulation and cleaning underneath the cabinets.

Coils are dry expansion type designed to occupy the same space and mounting as flooded coils. Temperature control is provided with a Copeland Coldial.

The new type of Copeland cooling coils used in Copeland-Consolidated ice cream cabinets are interchangeable with the present lines of coils used in soda fountains, beverage coolers and submerged type work, states A. L. Bogue, commercial sales manager.

"These coils," Mr. Bogue said, "are of the direct expansion type." With this type of coil, expansion of the refrigerant first takes place in the uppermost por tion of the coil, thereby maintaining even temperatures top and bottom."

## CHINESE DEVELOP INTEREST IN MILK PASTEURIZATION

LONDON, ENG.—A new interest in milk, both as a food and as an industry is developing in China, according to officials of the Aluminium Plant and Vessel Co. Ltd.

An order has been received by this company from the Culty Dairy Co., Shanghai, to build and install a large heat exchanger for pasteurization purposes. Two hundred gallons of milk per hour will be the regular capacity of the plant, although it will be constructed so that it can be extended for use up to 400 gallons per hour.

Recently the Chinese have been encouraged to think seriously about milk, particularly about pasteurized milk states A. C. Wyatt, sales manager of the Aluminium Plant and Vessel Co. Ltd.

"For centuries back," said Mr. Wyatt, "the people of China have displayed a more or less contemptible regard for cows' milk. They allowed the cows themselves to wander about wholly neglected. Whatever quantity of milk the cows did yield was distributed almost entirely among the European population of the country.

"When one of our representatives went out to Shanghai after the War he realized that an immense industry was still practically untapped. He held meetings with influential Chinese business men, and pointed out what pasteurized milk, with an organized system of distribution, would mean. Gradually the idea was spread, and now there is every indication that China intends to develop her milk supplies as thoroughly as they are developed here.

### BALTIMORE BAKERY ADDS MILK ROUTES

BALTIMORE, MD.—Milk will be delivered as well as bread to homes and retail stores by Kolb's Bakery. They have recently entered the dairy business.

# ICE CREAM PATENTS

*(Issued March 24 to April 14, Inclusive)*

1,797,417. ICE CREAM DISPENSING. Edward L. Hatcher, Tiffin, Ohio. Filed April 17, 1925. Serial No. 23,799. 2 Claims. (Cl. 107—54.)

1. The method of producing service portions of ice cream which comprises forming a tubular block of ice cream having an opening of substantial width therethrough, severing a portion from said block by cutting radially outward from said opening toward the outer side of said block, and removing said severed portion from said block.

1,797,606. METHOD OF PRESERVING FOWL. John N. Crider, Woodside, N. Y. Filed May 6, 1930. Serial No. 453,029. 7 Claims. (Cl. 99—14.)

4. The method of preserving fowl, which comprises dressing and drawing the fowl, passing a freezing tube through the cavity, filling the cavity with water, freezing the water, cutting the ends of the tube near the surface of the fowl and leaving a portion of the tube in the ice block filling the cavity.

7. A drawn and dressed fowl having the cavity, with the giblets therein, filled with a block of ice conforming to and filling the cavity.

1,798,219. ICE CREAM FREEZER. John E. Parker, San Meteo, Calif. Filed April 11, 1930. Serial No. 443,403. 5 Claims. (Cl. 259—53.)

1. An ice cream freezer comprising an outer casing having an opening in the bottom thereof, a freezer can mounted for rotation within the casing, a stationary dasher arranged within said casing, a rotatable shaft, means for rotating said shaft, means for coupling the shaft with the freezer can through the opening in the bottom of the outer casing, a supporting structure including a base, rods rising from the base, and means slidably supporting the outer casing on the rods and holding said casing fixed relatively thereto in a given position.

1,798,490. ICE CREAM DISHER. George T. Parr, St. Paul, Minn. Filed Oct. 26, 1923. Serial No. 670,870. 8 Claims. (Cl. 107—48.)

3. An ice cream disher comprising a pair of spaced plates, spring members connecting said plates together, said spring members holding said plates from movement toward one another, an ejector slidably mounted between said plates and means connected to said ejector for swinging said plates toward one another to hold the ice cream between the same.

1,798,551. ICE CREAM CUTTER. John N. Mocking and Morris Indech, Chicago, Ill. Filed Oct. 29, 1929. Serial No. 403,256. 1 Claim. (Cl. 107—20.)

In an apparatus of the character described comprising a casing having a hinged end wall and side walls provided with parallel slots, a tray having an upstanding rear end movably retained in said body member for holding the product to be sliced, gage marks on the inside of said side walls between said slots for gaging the thickness of a slice to be cut one-half the thickness of the ordinary slice, means for allowing the tray to be pushed outwardly, and a flanged cover for holding the said hinged end member in a closed position.

1,798,781. PROCESS OF PRESERVATION OF FRESH FRUITS AND VEGETABLES BY GAS INHIBITION AND REFRIGERATION. Charles Brooks, East Falls Church, Va., dedicated to the free use of the public. Filed Dec. 15, 1930. Serial No. 502,612. 1 Claim. (Cl. 62—170.) (Granted under the act of Mar. 3, 1883, as amended April 30, 1928; 370 O. G. 757.)

A process of preserving fresh food products such as fruits and vegetables during the period in which said products are being chilled down from a warm state to a proper low temperature suitable for preservation, which consists of the steps cooling said food products and simultaneously submerging said products in an atmosphere having a carbon dioxide content of from 15 to 40 per cent at the beginning of said cooling and gradually decreasing said carbon dioxide content to from 10 to 0 per cent at the time said products are brought to said proper low temperature of preservation.

1,799,791. ICE CREAM DIPPER. Charles R. Hitz, Philadelphia, Pa. Filed Sept. 13, 1930. Serial No. 481,709. 1 Claim. (Cl. 107—48.)

In a device of the character stated, a casing closed at its top and open at its bottom, a handle carried by the top of said casing, a push rod carried by said handle, a plunger within said casing, a stem for actuating said plunger extending through the top of said casing and through said handle, a detachable knob at the upper end of said stem, a spring wound around said stem and confined between the top of said handle and said knob normally to raise said stem above the bottom of said casing, and inwardly extending vertical flanges carried by the walls of said casing and engaging said plunger, there being vent holes in the closed top of said casing.

1,799,827. ICE CREAM SCOOP. Lowell M. Lawrence, New Rockford, N. Dak. Filed Oct. 28, 1929. Serial No. 402,948. 16 Claims. (Cl. 107—48.)

1. A jacket-like body open at its opposite ends, a manipulating member projecting from one end of said body and forming a guide, a unitary plunger structure comprising a plunger disc for reciprocation within the body and a head connected with the disc and normally slidably engaged by the manipulating member, said disc being adapted to be removed from and replaced in said body at the end thereof adjacent the manipulating member, said member being adapted to be sprung to free the head therefrom and to reengage the same, whereby the plunger structure, as a unit, may be quickly associated with or disassociated from said body and member.

1,809,109. ICE CREAM CAN CLAMP. Milton Selig, Philadelphia, Pa., assignor to I. Fischman & Sons, Philadelphia, Pa., a Corporation. Filed May 8, 1929. Serial No. 361,457. 18 Claims. (Cl. 220—15.)

1. In combination a pair of independently movable conventional cylindrical ice cream cans, and a unitary detachable clamp device having means conforming to and holding the cans relatively non-rotatable.

REISSUE—18,043. COOLER FOR CREAM AND OTHER LIQUIDS. Edwin Daniel Berry, Palmerston North, New Zealand, assignor to Henry Otterholt, Capetown, South Africa. Original No. 1,598,040, dated Aug. 31, 1926. Serial No. 748,471. Filed Nov. 7, 1924, and in New Zealand, Feb. 16, 1924. Application for reissue filed Feb. 27, 1928. Serial No. 257,390. 11 Claims. (Cl. 257—247.)

3. In a cooling device, the combination of a plurality of pairs of tubes, one of said tubes of each pair being arranged within the other and in spaced relation thereto, the outer tube providing a passage for the commodity to be cooled, and said tubes being bent relatively to each other in the same direction from the ends of the center of said tubes.

1,800,649. FREEZER. Harry C. Little, San Francisco, Calif. Filed Feb. 6, 1929. Serial No. 337,981. 1 Claim. (Cl. 257—98.)

An external freezer for liquid foods, comprising a casing having an opening in one side, a substantially cylindrical refrigerant holder mounted within the casing, a pan arranged within the lower portion of the casing with the lower portion of the holder extending into the pan for a substantial distance below the top of the pan, the end of the pan remote from said opening being curved in cross-section and generally concentric with the holder, trunnions mounted within the casing and engaging the pan to support the same near its ends and retaining the pan spaced from the bottom of the casing, the trunnions arranged nearest to said opening having detachable interlocking engagement with the pan, while the trunnions remote from said opening are in free engagement with the pan, the bottom of the pan between the trunnions being unsupported whereby the curved end of the pan may descend to the bottom of the casing between the trunnions thus enabling the pan to be removed through said opening without removing or disturbing said holder, and means to remove the frozen food from said holder.

1,800,757. CREAM AND ICE CREAM MIX FILTER. John J. Schlosser. Frankfort, Ind. Filed Jan. 19, 1929. Serial No. 333,567. 4 Claims. (Cl. 210—152.)

1. A filter including an upright cylindrical screen having an open end and a closed but perforated bottom for increasing screening area, a casing in spaced relation therewith, a lateral partition in said casing and engaging said screen and dividing the same into two successive screening surfaces, said partition and said screen forming two superposed annular chambers within said casing, an inlet to one chamber, an outlet from the other chamber, and a movably mounted member adapted to engage the entire screening surface for cleaning the same.

1,800,759. ICE CREAM CONE CUP HOLDER. Lee F. Shean, Berkeley, Calif. Filed Oct. 26, 1927. Serial No. 228,913. 4 Claims. (Cl. 229—1.5.)

3. A cup holder for receiving an ice cream cone, said holder extending to a point adjacent to the top of the cone, the upper portion of said holder being flared outwardly for catching all of the drippings from the cone and means for conveying all of the drippings to the bottom of the cup holder.

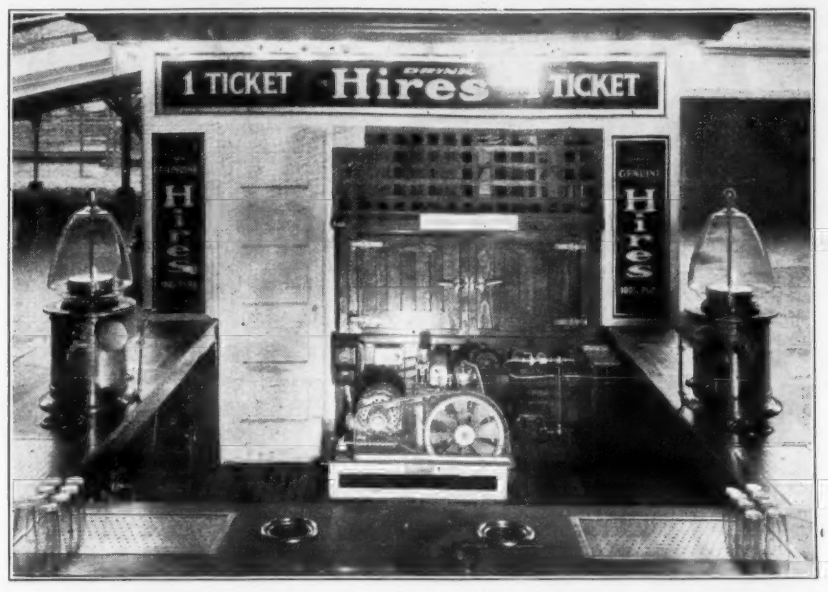
1,800,970. STORING AND DISPENSING APPARATUS. Theodore L. Valerius, Milwaukee, Wis., assignor to Valerius Corporation, Jefferson, Wis., a Corporation of Wisconsin. Filed Nov. 8, 1926. Serial No. 147,132. 10 Claims. (Cl. 62—101.)

1. In apparatus of the class described, the combination of a pair of compartments for containing a refrigerated medium, an intermediate compartment, means in one of the first mentioned compartments for refrigerating the medium therein, a thermo-siphonic system between said first mentioned compartments, said system comprising upper and lower pipes connected to the upper and lower portions respectively of said compartments, one of said pipes being insulated and the other pipe extending through said intermediate compartment, and means in the last mentioned pipe for controlling the flow of the medium therethrough.

1,800,990. ICE CREAM AND CONFECTIONERY CONTAINER. William S. Forrest, Chicago, Ill. Filed June 15, 1929. Serial No. 371,103. 2 Claims. (Cl. 229—8.)

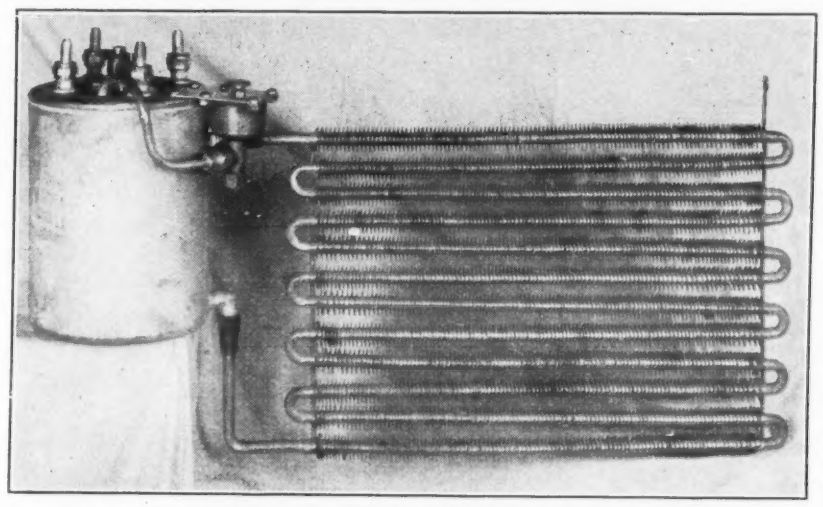
1. As an article of manufacture, a spherical container comprising two substantially identical sections, a shell closely fitting and covering said container, a layer of adhesive material operable to fasten the shell to the container, said shell comprising two similar gore sections, and means simulating stitches on the continguous edges of said gore sections, the wall of said container having a recess forming a coin receptacle and the casing having a slit adjacent said recess through which a coin may be inserted into the receptacle.

## Cool Drinks for Clevelanders




When citizens of Cleveland swarm to Euclid Beacn Park on torrid, summer days, the refrigerating system gets a heavy workout. Often more than 60,000 cool drinks are served in a 12-hour period. In the many soft drink stands distributed around the park, Temprite units connected up to single or multiple systems, cool the beverages. Pictured here is a refreshment stand with several coolings units.

## Soda Fountain Cooler



The new Temprite 35-B2 model placed on the market this year by the Liquid Cooler Corp. cools both beverages and the dry storage compartment of a soda fountain. Soda water, ginger ale and water may be cooled simultaneously.

## EMPIRE STATE BLDG. ORDERS WATER COOLING SYSTEM

NEW YORK CITY—Electricity, which will perform every possible service in the 102-story Empire State Building, tallest structure in the world, will also cool the drinking water, it was made known here with the awarding of a contract to Frigidaire Corp. for unit type electrically refrigerated coolers.

Drinking water held at the right temperature for human consumption day and night will be made available to the 25,000 tenants of the building.

In addition to the water cooling contract, Frigidaire will provide electric refrigeration for the exclusive Empire State Club, an organization of business men which will have as its first president Alfred E. Smith.

Commercial refrigeration equipment for a large food storage box and a new household Frigidaire will be installed in the club, which will occupy the entire twenty-first floor of the building.

Another large electric refrigeration order was recently closed by Frigidaire with Bing and Bing, large apartment construction and operating firm, for 1,016 models. Three, four and five cu. ft. models were selected.

The Frigidaires will be used in eight ultra-modern apartments now under construction and forty-three already in operation, it was said.

The Goodley Holding Co. apartment operators, recently purchased 1,000 Frigidaires for its many medium priced New York apartments.

## RESTAURANT PURCHASES COMMERCIAL MODEL

CLEVELAND.—A large General Electric refrigerator Model C-450 now guards the food served at Fayne's Restaurant and Cafeteria, located at East 14th St. and Euclid Ave.

## MARGARINE TAX APPROVED BY PRESIDENT HOOVER

WASHINGTON, D. C.—A tax of 10 cents a pound on margarine was approved by President Hoover on the last day Congress was in session.

This amendment will tax oleomargarine which has been colored by using natural, palm oil, whereas the Oleomargarine Act of 1886 levied a tax of 10 cents per pound, to be paid by the manufacturer on all artificially colored margarine.

The palm oil had been held by the Collector of Internal Revenue not to be an artificial coloring agent. The amendment changes the basis of applying the tax by making the distinction solely on the color of the oleomargarine, whether artifiicial or not.

## DENVER CANDY CONCERNS CONSOLIDATE

DENVER, COLO.—Arrangements for a merger have been completed by the Brecht Candy Co. and W. C. Nevin Candy Co., both on this city.

The combined organization will comprise the largest confectionery company in the Rocky Mountain area.

# DAIRY COMPANIES TO BUILD NEW PLANTS

MICHIGAN CITY, IND.—A contract has been awarded by the Scholl Dairy Co. for the construction of a two-story 101x150 ft. dairy plant, including bottling, receiving and pasteurizing departments, at 1030 E. Michigan St. It will cost $60,000.

ALBANY, N. Y.—A $40,000 bakery, store house, cold storage plant, etc., will soon be erected by the Dept. of Correction, State Office Bldg., of this city.

BATON ROUGE, LA.—The construction of a two-story creamery plant, including cold storage room, mechanical equipment, etc., is planned by Louisiana Creamery Co., Inc. Estimated cost is placed at $75,000.

BEAUMONT, TEX.—Coca Cola Bottling Co. will soon begin the construction of a bottling plant. The work will be done by their own force with A. C. Johnson in charge. Pringle & Smith are the architects.

BRADFORD, PA.—Revised plans are being prepared by the Coca Cola Bottling Works, for the construction of a one and two-story, 7$x100 ft. bottling plant at an estimated cost of $40,000.

BERKELEY, CALIF.—A contract has been awarded recently by G. R. Heath for a one-story creamery plant at an estimated cost of $75,000.

INDIANAPOLIS—A contract, for a one and two-story 197x231 ft. bakery, including refrigeration plant, boiler plant, loading platforms, etc., has been recently awarded by Helms Bakeries, Ltd. The estimated cost is $110,000.

DAVENPORT, IA.—The Davenport Candy Co. recently awarded a contract for a one-story, 60x200 ft. candy factory, at an estimated cost of $40,000.

## INCREASED BUSINESS SHOWN IN BORDEN CO. REPORT

NEW YORK CITY—The Borden Co. announces a net income for 1930, after all charges, of $21,681,213. This sum is equivalent to $5.12 a share on 4,233,395 shares, as compared with $20,403,725, or $5.50 a share on 3,706,724 shares in 1929.

Cash and stock dividends paid last year totaled $14,859,163, compared with $10,047,636 in 1929. Notes payable were reduced from $8,548,600 on Dec. 31, 1929, to $4,800,000 on Dec. 31, 1930.

# TO HELP YOU MAKE MORE SALES

If you are a manufacturer, distributor, or dealer, you can use the *Refrigerated Food Section* as a definite aid in the promotion of commercial sales. Simply see that it reaches your commercial prospects.

In the *Refrigerated Food Section* will be found news and information of interest to meat merchants and grocers, chain store executives, ice cream manufacturers, druggists, confectioners, restaurant owners, and all food service establishments.

Your prospects will be better informed on the advantages of up-to-date refrigeration equipment by reading the *Refrigerated Food Section.*

Use the blank below to order extra copies for distribution by your salesmen. Or send to ELECTRIC REFRIGERATION NEWS the names of companies to which you would like to have sample copies sent.—Editor.

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4-22-31

# ORANGE JUICE SHOPS PLANNED IN SOUTH

ATLANTA, GA.—Constructed in the shape of gigantic oranges, Frosty Morning Shops will soon appear all over the South, if plans of E. George Sanders and O. R. Randall of this city go aright.

Four shops are now being erected in Atlanta, and two in New Orleans. Others are to be put up in Jacksonville, Fla.; Memphis, Tenn.; Tampa, Fla.; St. Petersburg, Fla.; Birmingham, Ala.; Columbus, Ga. and Jackson, Miss. Gradual expansion over the South, and later over other parts of the nation, is contemplated.

Although it is a separate and distinct organization from Tom Huston Frozen Foods, Inc., Frosty Morning Shops will feature the Huston frozen confections.

Orange drinks, sandwiches, and other foods will also be carried. In addition to the counter service, automobiles will be served while patrons remain inside their machines, making use of trays which will fasten to sides of the cars.

From eight to ten persons will be employed in each shop, according to Randall. Girls will wear orange and blue uniforms, and men attendants will wear white suits.

The Claude Neon Corp. of Atlanta has been given a contract for the erection of a neon electric sign over each shop, reading "Frosty Morning", in letters three feet tall.

## Frosty Mornings for Warm Climate




All over the South these Frosty Morning Shops will be established, if plans of an Atlanta group come to fruition. They will feature Tom Huston's frozen confections, along with a regular line of roadside stand quick-lunch items.

# REFRIGERATION PLACED IN FLORIDA CANDY FACTORY

MIAMI, FLA.—Installation of a large Servel refrigerator in the candy plant of Francois Jacquemoux, manufacturer of crystallized and glace fruits and candies, has solved the problem of "curing" confections so they will withstand exposure to the air. Bon bons, fruit and pecan kisses, and crystallized fruits of all kinds are among the products of this factory.

The compartments of the refrigerator were fitted with shallow wooden trays or shelves, of varying depths, and so arranged that boxes of different sizes might be packed away. In them are placed the chocolate-dipped candies.

After remaining in the refrigerator for a certain time until they are set or cured, the candy is taken out and packed in boxes. After being placed in the fancy cartons it is again returned to the refrigerator for further curing.

Not only is the chocolate coated confectionery treated thus, but all cocoanut candies are so cured. English toffey is another product that must be so treated.

Since using the electric refrigerator it has been possible to prepare seasonal novelties somewhat in advance of the actual requirements, and be assured that each piece will be absolutely fresh and as good as when first made. Such items as the chocolate Easter egg candy are handled in this way, with the result that there is far less loss from spoiled goods than was formerly the case.

Mr. Jacquemoux finds that he can control the temperature to produce the best results with his candy. This is an important part of the curing process. With the old type iced refrigerators it was impossible to maintain an even degree of cold for any sustained period of time, with the result that there was no absolute certainty as to the outcome. Now the guess work is eliminated; the curing is done to an absolutely certain formula and the result is sure to be satisfactory.

Because of the peculiar nature of his retail business, it is essential that every piece of chocolate and other confection be properly cured. Mr. Jacquemoux ships gift boxes to every part of the United States, and daily packages are mailed to many foreign countries.

## SPECIAL CABINET COOLS VEGETABLES, MEATS

CHICAGO—Dairy products, meats and vegetables are all stored in a Seeger refrigerator, recently installed in the Washington and Jane Smith Home for the aged.

This refrigerator is of special construction and has three compartments with insulated partitions. Kelvinator compressors and coils, supplied by the Commonwealth Edison Co. are hooked up to maintain a different temperature in each section.

## VENDING MACHINE MAKERS MEET IN NEW YORK CITY

NEW YORK CITY—The annual convention of the Vending Machine Manufacturers Association of America was held at the New Yorker, April 6-8.

Vending machines for dispensing general merchandise, groceries, drugs and cigarettes have become so popular within the past year that they will form the backbone of the vending apparatus business within the next five years, it was predicted at this convention.

# Big Crowds Attend New Orleans Show

NEW ORLEANS, LA.—The second annual show of the Food Preservation Association of New Orleans held here April 13-18 in the Public Service Co's. building was attended by thousands from New Orleans and adjacent towns and parishes.

Many models of electric and ice-cooled refrigerators were exhibited in decorated booths by the following concerns: A. Baldwin & Co., (Electrolux); Modern Appliance Co. (Majestic); Frigidaire Sales Corp; Kelvinator Sales Corp. Specialty Sales Corp. (Leonard); New Orleans Ice Association; A. C. Riddick Co. (General Electric); Edward N. Eberling & Co. (Copeland); Interstate Electric Co. (Servel); Walther Bros., Inc., (Ice-O-Matic).

Domestic science experts demonstrated to housewives the proper methods of preparing and preserving foods in daily talks on quantity buying, leftovers, salads, milk and cheese desserts and beverages and health. A one-act play "Cooling Off" emphasized the practicability of owning an electric refrigerator.

Favors were given away by the distributors and a grand prize drawing gave the winner choice of any of the refrigerators on exhibit.

# FOOD STORE IDEA WINNING SUPPORT

By Mrs. Beulah Canterbury

THE grocery store and separate meat market have a strong rival in the modern food shop where the housewife can buy frozen fish and green asparagus, ice cream and rolls, chicken and whipping cream, or anything else she wants for her table.

Grocers and butchers who are operating in complete food stores are turning to electric refrigeration. Though less than one-fourth of the 239,236 grocers had electric refrigerators three years ago, the percentage of those who are changing from ice is increasing rapidly, as they realize the necessity of adding meats to their line.

The grocer who has added meat to his grocery line has found that he is getting a larger share of the family food dollar, as he is now receiving the part that goes for meat and fish. In addition, he is winning back customers that were dropping away when they found they couldn't buy all their table needs from him.

Five years ago a grocer in a middle west city was doing business of about $25,000 a year in fresh vegetables and canned goods. Then came a chain store three years ago which started in business down the street.

The chain store sold meats and ice cream in addition to groceries. Customers this grocer had had for years began to buy their meats at the other store and gradually his grocery trade fell off.

Being an aggressive business man, he set out to meet the competition by installing a meat department and he also had a dairy company put in an ice cream cabinet.

By advertising his meats, his ice cream and his other new lines, he drew back many of his old customers, but he found his overhead too high.

Last year he installed electric refrigeration to cool a cooler, a refrigerated show case, an ice cream cabinet, a commercial cabinet for dairy products and groceries, and a soft drink cabinet.

His records for last year with electric refrigeration and for the year before with ice, show that in his meat department the ice cost was $35.00 a month, compared with electric refrigeration at $7.00 per month.

Savings on spoilage amounting to $7.50 monthly made a net saving in the meat department of $35.50 a month or $426.00 a year. In addition his meat business jumped 20 per cent in the year, as he was able to sell at lower prices.

The cost of ice in his grocery department had been $15.00 a month. With electric refrigeration, his power bill was $3.60 per month. His savings on spoilage was $5.50 per month boosted the saving in the grocery department to $16.90 per month or $202.80 a year. The gross savings amounted to $628.00 a year.

Putting in an electric refrigerated ice cream cabinet permitted him to buy ice cream for $1.00 a can less than when the ice cream company packed it for him.

Though there is not a large profit in ice cream, this grocer feels he wants to keep it as a convenience to his customers and a business getter, as ice cream is becoming as standing an American dessert as pie. Usually he finds he can sell a cake or cookies to go with it.

The refrigerated soft drink trade is profit-making, as the store is near a junior high school and attracts noon and afternoon trade.

Additional sales of pretzels, cakes, cookies, cheese, sardines and crackers accompany the soft drink sale to students. He has received fine large orders for refreshments at various school festivities.

The case of this grocer proves a statement made by the head of a chain store syndicate to a group of refrigerator salesmen at a convention in Akron. He said: "Any independent grocer that modernizes his store with electric refrigeration and modern shelving equipment, adding his own personal service and appeal, has the chain store beat."

A number of food shops are now equipped with electric refrigerators through the sale of 70 units to John Eiferd, president of the Golden Star Dairy of East Liverpool, Ohio.

These refrigerators were installed by Eiferd in the 70 stores that retailed his Golden Star milk for the purpose of keeping the milk at an even temperature, so that the ultimate consumer might have it as fresh as when pasteurized at the dairy.

Eiferd figured that his company would be repaid in the long run and the price of the refrigerators would be repaid in the fact that no milk would have to be returned and in the satisfaction of the customers.

# LETTERS FROM READERS

## Boomerang

Atlanta, Ga.

Editor:

In the issue of ELECTRICAL REFRIGERATION NEWS of March 25th, reference is made to a surprising bill that is now before the Legislature of Maryland, evidently designed to handicap the sale of frozen food. (This bill has been vetoed; see page 1 of this section—Editor).

Of all the states in the Union, not one seems to be favored so conspicously by the marvelous combination of soil well suited for growing delicious fruits and berries, and the long coast line of Chesapeake Bay teaming with sea food, which in no other way can be preserved so perfectly and so advantageously as by the quick-freezing method.

The author of this bill apparently has given little thought to the possibilities afforded Maryland by the development of this infant industry. To be able to establish a plant where a variety of delicious and wholesome perishable food products can be quickly frozen in one plant affords opportunities so alluring to the "quick-freezers" that it seems impossible that such a bill could be contemplated.

Plants for quick-freezing are most fortunate when they have available a variety of products coming in a different season, so that operations may not be limited to a single or few crops. When a great variety of fruits and vegetables can be supplemented with many different sea foods such as Chesapeake Bay affords, and with the big markets close by, such a law as the one proposed seems incredible.

The stability of market afforded when the surplus can be preserved and safely shipped to distant States, for consumption both in and out of season, surely should cause Maryland to hesitate to pass a law which ultimately would hurt her worse than probably any other State.

The men in the business of quick-freezing of perishable foods think it a rare opportunity when they can load refrigerator cars, for shipment to distant points, with a variety of foods.

This greatly simplifies distribution just as a variety of products cheapens the cost of freezing because the plants can be operated for more months during the year.

While this industry is still in its infancy, it has passed the experimental stage, and there are few perishable foods which are not admirably preserved by the quick-freeze method. It should remove the rule of "R" from the months when it is safe to eat oysters.

In a plant for freezing peaches at Monticello, Ga. many other fruits and vegetables were preserved in this manner last Summer, as were milk and cream, which are still delicious although eight months old.

Instead of handicapping this industry with new laws, Georgia is carrying on extensive experiments with all types of perishable food products at the Agricultural Experiment Station. They are now testing the quality of vitamins in milk preserved in this manner.

The clause in the proposed bill requiring that display cabinets maintain a temperature of 28 degrees below zero F. is absurdly unnecessary and unreasonable.

In spite of seeming presumptious, the suggestion is made that Maryland make similar experiments or, at least, avail herself of the facts already worked out before she passes laws to retard the development of an industry which likely will bring prosperity to many sections along the Chesapeake Bay.

C. M. Foster
President Polar Products, Inc.

## A Job Well Done

Jersey City, N. J.

Editor:

We have read with interest the March 25, 1931, issue of the *Refrigerated Food Section* of ELECTRIC REFRIGERATION NEWS.

We wish to compliment you on the way you reported the Frozen Foods Dinner at the Hotel Governor Clinton given on March 18 by the New York Section of the American Society of Refrigerating Engineers.

We have sent this copy to our principals in the West, and we would appreciate your sending us another copy.

Swift & Co.
Per W. A. J.

## Dry Ice

St. Petersburg, Fla.

Editor:

We are especially interested in having full particulars on Dry Ice.

Could you inform us whteher there are any household refrigerators using this Dry Ice: are there small plants available and to whom may we write in this regard?

A. B. GAMSE
Tire Service Co.

# Financial Reports of Chain Store Groups

## SAFEWAY STORES

OAKLAND, CALIF.—Safeway Stores report sales in February amounting to $15,781,593, against $17,002,007 in the same month last year, a decrease of 7.18 per cent.

Sales were $33,443,111 for the first two months.

## H. C. BOHACK CO., INC.

NEW YORK CITY—Food stores operated by H. C. Bohack Co., Inc., earned $33,298,854 in the fiscal year ended Jan. 31, according to annual report issued recently.

An increase of 15.36 per cent is shown in this total as compared with $28,865,869 in the preceding fiscal year.

## CROSSE & BLACKWELL, INC.

BALTIMORE—Net income of Crosse & Blackwell, Inc., and its domestic subsidiary, Crosse & Blackwell, Inc., New York City for the year ended Dec. 31, 1930 totaled $202,390 after interest, federal taxes, and dividends.

This compares with net income in 1929 of $203,579. Balance sheet as of Dec. 31 last, shows total assets of $2,938,646 558. Current assets amounted to $740,983 and current liabilities $400,695.

## DOMINION STORES, LTD.

TORONTO, CAN.—Dominion Stores, Ltd., reports for the year ended Dec. 31, 1930, net profit of $530,808, after depreciation, federal taxes, etc., equivalent to $1.91 a share on 277,715 no-par shares of stock.

This compares with $590,550 or $2.17 a share on 272,269 shares in 1929. Sales for 1930 totaled $24,118,586, comparing with $24,644,183 in 1929.

Dominion stores had 526 stores operating on Dec. 31, last, as compared with 519 at the close of 1929.

## FIRST NATIONAL STORES

SOMERVILLE, MASS.—For the quarter ended Dec. 27, 1930 First National Stores, Inc., showed a net profit of $1,080,793 after all charges, against $1,168,065 in the corresponding period of last year. This was equal to $1.21 a share on the common after preferred dividend against $1.32 a share in 1929.

Net profit for the nine months ended Dec. 27, amounted to $3,332,582, equal to $3.74 a share on the common against $3,620,324 or $4.25 a share on the common for the same period of the year before.

Retail sales of the company for the four weeks ended Jan. 24 totaled against $8,496,665 for the same 1930 period, a decrease of 5.1 per cent.

## WINN & LOVETT GROCERY CO.

SANFORD, FLA.—A decrease of 16.4 per cent was shown in the sales of Winn & Lovett Grocery Co., for February. Sales reached $414,425, as compared with $495,937 in the same month last year.

## DANIEL REEVES, INC.

NEW YORK CITY—February sales of stores operated by Daniel Reeves, Inc. amounted to $2,677,770 compared with $2,868,176 for the same month last year, a decline of 6.64 per cent.

The sales were $6,078,792 for the first two months, against $6,478,567 a decrease of 6.09 per cent in the year of 1930.

## DAVID PENDER CO.

NORFOLK, VA.—Net profits for the year ended Jan. 3, 1931, reported by the David Pender Grocery Co., amounted to $40,741 after charges and federal taxes, equivalent to $1.34 a share on 30,207 no-par share of $3.50 Class A preferred stock.

These figures compare with net profit in preceeding year of $287,715 equal, after allowing for dividends on Class A preferred stock, to $2.79 a share on $65,070 no-par shares of Class B common stock.

## COCA COLA CO.

ATLANTA, GA.—The Coca-Cola Co. has declared a quarterly dividend of $175 a share on the common stock, of which 1,000,000 shares are outstanding, and has also voted an extra dividend of 25 cents a share on the same stock.

This places common stock on a $7 annual dividend basis, against $6 formerly.

## CLEVELAND SAUNDERS STORES BANKRUPT

CLEVELAND—The Clarence Saunders group of stores in Cleveland recently went into bankruptcy. The chain was composed of five food stores.

15,000 Copies

# Engineering Section

In Three Parts—Part 3

# ELECTRIC REFRIGERATION NEWS

Registered U. S. Patent Office.

The business newspaper of the refrigeration industry

ISSUED EVERY TWO WEEKS
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## N.E.M.A. DIVISION DRAFTS METHOD OF RATING UNITS

### Technical Committee Reports On Plan For Testing Refrigerators

CLEVELAND.—Proposed methods for specifying cubical content and shelf area of refrigerators, and a tentative method of testing domestic equipment were reported on in the March 25 meeting of the Refrigeration Division of the National Electrical Manufacturers' Association. Louis Ruthenburg, division chairman, presided. The next meeting was set for April 22, at N. E. M. A. headquarters in New York City.

The advisory committee recommended that thorough discussion be given to the subject of warranties. The division voted to refer the matter to the Commercial Practices Committee for study and requested each member to forward copies of (a) its warranties to the trade, and (b) its trade warranties to the user, and to state to what extent each one involved participates in carrying out these warranties.

The Technical Committee reported that it had formulated a tentative method of testing domestic equipment and that this method had been turned over to each company for further study by its engineering department. The committee reported that in conformance with the division's instructions, it had appointed Glenn Muffly of Copeland to be the division's contact in the N. E. M. A. Committee on Co-ordination of Acoustic Relations of Power and Communication Apparatus and Systems. This committee's deliberations in part deal with noises in electrical machinery and methods for measuring such noise.

The Commercial Practices Committee recommended to the division that liens or contracts on refrigeration equipment installed in buildings should not be subordinated to other mortgages.

The committee endorsed the work of the N. E. M. A. Joint Industry Committee on Telegraph Codes and appointed C. R. Taylor of Westinghouse to cooperate with the chairman of that committee, A. B. Zerby, in the activity.

Due to the many technicalities arising in the handling of patents, the division authorized the formation in the Commercial Practices Committee of a subcommittee on patents, whose membership is to be drawn from the staffs of the division members and to be predominately of legal content.

On the recommendation of the division, the Commercial Practices Committee chairman was authorized to appoint a subcommittee chosen from the traffic managers of the various division members, to study transportation problems of general interest.

Attention was called to the fact that

(*Concluded on Page 4, Column 3*)

## MAJESTIC DEALERS ATTEND SERVICE SCHOOLS

HARTFORD, CONN.—Majestic refrigerator dealers operating under Stern & Co., Inc., of this city, newly appointed distributor, attended service schools recently in three cities.

More than 100 dealers attended the service school held in this city, while the sessions at Springfield, Mass., and Burlington, Vt., also had large attendances.

Francis E. Stern, president of the company, opened the conference at Hartford with a general talk on refrigeration.

## CLAUDE NEON PATENT HELD INFRINGED BY NEALE, INC.

LOS ANGELES.—The Claude Patent number 1,125,476 was held to be a pioneer patent and infringed in the case of Claude Neon Electrical Products Corp., a Claude Neon Lights licensee, versus Neale, Inc., a Rainbow Luminous licensee, by Judge Cosgrave in the United States district court of this city, on April 4.

The case covered the so-called button caesium electrode construction which had been disputed in Eastern litigation. Action was started in the courts in March, 1926.

## *Joint Air Conditioning Meeting Planned*

New York City—Mutual interests of refrigerating engineers and heating and ventilating engineers, in the subject of air conditioning, will combine in a joint session of the American Society of Refrigerating Engineers and the American Society of Heating and Ventilating Engineers, to be held in Cleveland next January.

The refrigeration men will stay at the Cleveland Hotel, while the heating and ventilating engineers will have headquarters at the Statler, it has been announced.

## PENN SWITCH NAMES DISTRIBUTOR IN EAST

DES MOINES, IOWA.—The Penn Electric Switch Co. has appointed the Pennsylvania Distributing Co., 2401 Chestnut St., Philadelphia, as distributor for its line of automatic controls in that territory.

The Pennsylvania company headed by H. A. Lang and Raymond Fischer, previously sold Time-O-Stat equipment.

All the counties in Pennsylvania east of and including the counties of Franklin, Juniata, Mifflin, Snyder, Northumberland, Lycoming and Tioga; all counties in New Jersey south of a line drawn east and west of the city of New Brunswick; and the states of Delaware, Virginia and Maryland will be covered by this company.

The new connection in no way affects the Penn Electric Switch Co.'s direct representative at Philadelphia, Glen Morris, who likewise covers the same territory, in contacting manufacturers.

E. C. Hansen, operating as the Penn Electric Switch Distributing Co., 1328 North 12th St., Milwaukee, is now covering all of Wisconsin and upper Michigan.

## DETROIT SCHOOL STARTED TO TEACH REFRIGERATION

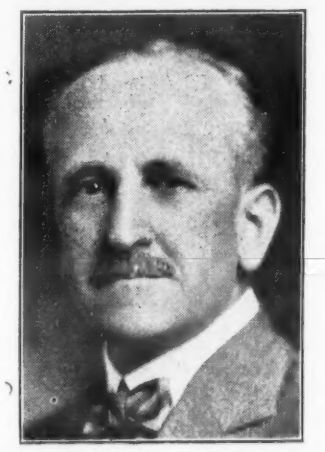
DETROIT—A practical school for students of refrigeration has been organized by J. T. Moore, Oscar Heide, and A. S. North under the name of National Refrigeration Institute at 3123 East Jefferson Ave., in this city. The course of instruction lasts for eight weeks, and includes both theoretical studies and practical experience on the laboratory equipment which has been installed in the class-room.

Moore is in charge of the instruction, Heide is business manager, while North assists in teaching and takes care of outside service calls which are handled in connection with the school so the students may observe actual refrigeration service work.

## PROFESSOR WOOD FATALLY INJURED BY MOTORCYCLE

### Funeral Rites Held Tuesday For Former President Of A. S. R. E.

STATE COLLEGE, PA., April 21—(Special to the ELECTRIC REFRIGERATION NEWS)—Funeral services were held at the Presbyterian Church here today for Professor A. J. Wood, head of the department of mechanical engineering of Pennsylvania State College, and former



Professor A. J. Wood

president of the American Society of Refrigerating Engineers.

Professor Wood was fatally injured Saturday noon when a motorcycle hit him. He was rushed to the Bellefonte Pennsylvania Hospital, where he regained consciousness for a short time, and died at 5 p. m.

## *Baer's Tribute*

DETROIT—A. H. Baer, president of the A. S. R. E., received in Detroit, the news of Prof. Wood's death. He made the following statement:

"The untimely death of Professor Wood removes from the refrigeration field one of its most earnest workers.

"Although he had attained distinction as a mechanical engineer and an educator of engineers, those of us who have worked with him know that in late years engineering concerned with refrigeration was closest to his heart, and that he gave both time and effort liberally to further its advancement.

"The American Society of Refrigerating Engineers has lost not only one of its most able and helpful Past Presidents, but also a lovable and conscientious member with whom it has always been a pleasure to cooperate."

## *Next Issue Features Industrial Systems*

The latest applications of industrial refrigeration will be treated in the next Engineering Section of Electric Refrigeration News, May 6. In many manufacturing processes, the use of refrigeration is considered essential in producing a properly finished product.

Cold storage, ice manufacture, packing house installations, dairies, fruit and produce warehouses, and marine refrigeration all come within the scope of industrial refrigeration.

## INSTITUTE STUDENTS GET PRACTICAL HELP

CLEVELAND—Since instruction in electric refrigeration was planned and developed ten months ago by the National Technical Institute of this city, it has grown to include 70 students, according to R. O. Krause, president of the institution. Household, commercial, and industrial phases of electric refrigeration are taught in eight-week practical training course.

Instruction is given individually as much as possible, Mr. Krause said, because the students start with varying degrees of experience. The school holds sessions five days a week, with class hours from 9 in the morning to 4 o'clock in the afternoon.

Students do considerable evening study, and make after-school inspection trips which provide acquaintance with apartment house and air conditioning installations, and other commercial and industrial applications. When full-time training is taken, the work is usually completed in the allotted eight weeks, Mr. Krause said.

Laboratory equipment includes Frigidaire, Kelvinator, Copeland, Servel, Uni-

(*Concluded on Page 2, Column 3*)

## NEW BOOKLET DISCUSSES PORCELAIN ENAMEL USES

CHICAGO.—The Porcelain Enamel Institute, Inc., 612 North Michigan Ave., has just published a small pamphlet "What You Should Know About Porcelain Enamel." It is addressed primarily to salesmen and advertising men interested in porcelain enamel as a finish for such products as washing machines, refrigerators, stores and ranges, kitchenware, signs, reflectors, tile and scales.

However, it contains other information of general interest, such as the use of porcelain enamel for artistic purposes in antiquity, the sources of the materials from which it is manufactured, and how it is fused into the iron.

## WILE PRESENTS RESEARCH DATA ON HEAT RATES

### Arco Engineer Traces Research In Development of Castincoil Unit

DETROIT—Laboratory experiments which lead to the development of the Castincoil evaporator, together with the determinations of heat transfer coefficients for aluminum surfaces and small copper tubing that were made in the course of the research work, were described by Daniel D. Wile of the American Radiator Co. in the monthly meeting of the Detroit section of the A. S. R. E., Monday night, April 20.

"This cooling unit consists of an aluminum casting containing a coil of copper tubing for the flow of the refrigerant," Mr. Wile said, illustrating his description with a lantern slide of the evaporator. "A relatively short length of tubing is used, with the coils grouped near the front and rear of the unit. The desired amount of external surface is obtained by means of ribs that are cast as an integral part of the unit.

"We wanted to use as little tubing as possible without affecting the efficiency of the unit, and it was therefore necessary to know what effect the different length of tubing would have," he said. "From our calculations of the rates of heat transfer, we were able to determine the proper amount of external surface, and the required amount of coil.

"The test apparatus for determining the heat transfer rate from refrigerant to the inside of the copper tubing included an insulated tank filled with brine in which the coil to be tested was placed, and a motor-driven propeller producing circulation of the brine.

"The test procedure was to operate the compressor at a constant rate, adjusting the brine temperature by means of the electric heater and rheostat, until the refrigerant was completely evaporated at the end of the coil. Thermocouples on the suction line indicated when this condition was reached," he said. Thermocouples also measured the liquid line temperature and evaporation temperature.

At this point he illustrated the results with a slide which showed the heat transfer rates for ¼ and ⅜ in. copper

(*Concluded on Page 4, Column 4*)

## AMERICAN LINE OF PARTS NOW SOLD IN DETROIT

DETROIT—The sale of American automatic expansion valves, thermostatic expansion valves, float valves, and Castincoil domestic cooling units will be handled by the Detroit Lubricator Co. instead of by the industrial division of the American Radiator Co., it has been announced. The Detroit Lubricator Co. is a subsidiary of the American Radiator & Standard Sanitary Corp.

I. J. Knudson will maintain headquarters in both Chicago and Detroit offices, while R. A. Townsend is continuing to direct his activities from the main offices in New York.

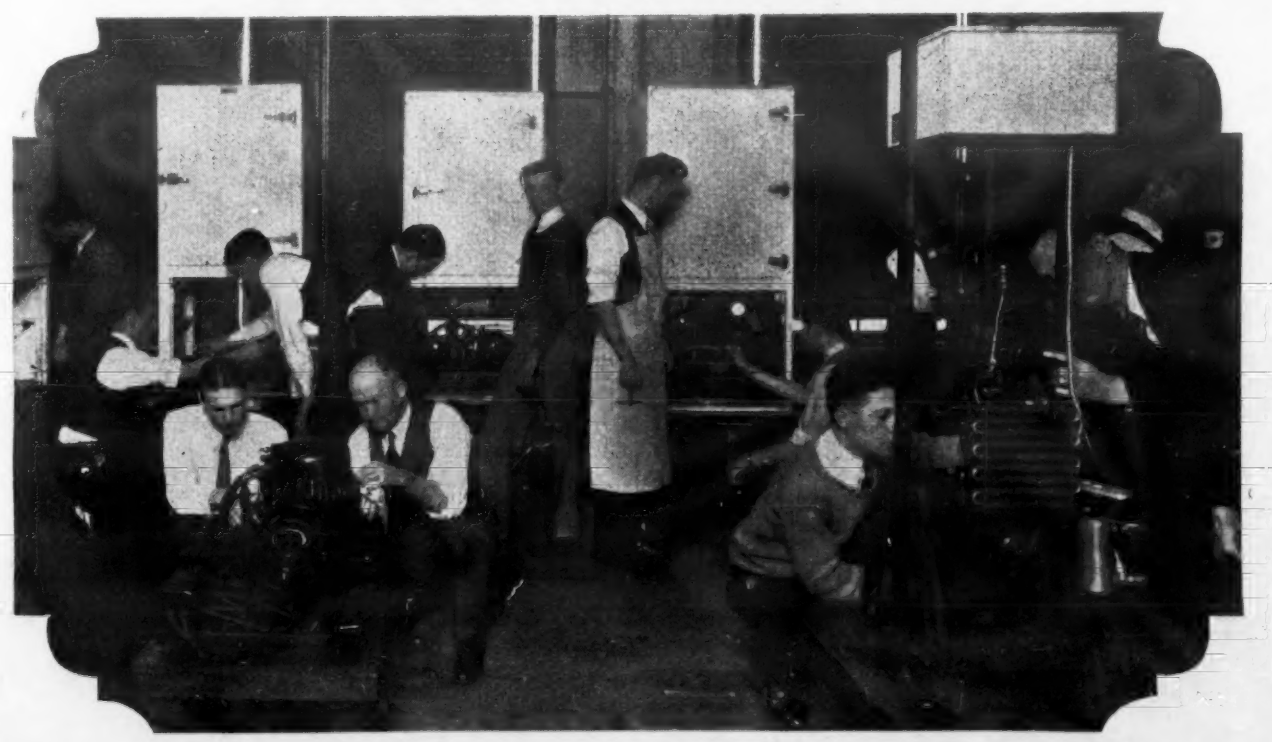
## NEW FLOAT VALVE DESIGNED BY C. M. BRENNER

SHREVEPORT, LA.—A float valve in which the seat or needle can be replaced without taking it apart has been designed by C. M. Brenner, and will be sold by Alphonse Brenner Co., Inc., according to an announcement from that company. Pumping out the coils, dehydration, and recharging will be eliminated with this new valve, Mr. Brenner claims.

## AIR CONDITIONING PLANNED FOR CLEVELAND HOME

CLEVELAND—A complete domestic air conditioning system is being installed in the home of F. F. Haffemeister in Shaker Heights, near here, by Richard F. Gray, The equipment will filter the air, regulate the humidity and temperature, and provide ventilation.

## *Learning By Practical Experience*



Students of electric refrigeration in the laboratory of the National Technical Institute

# INSTITUTE STUDENTS GET PRACTICAL HELP

*(Concluded from Page 1, Column 4)*

versal, Norge, Lipman, and Koldstream machines, in adition to several units assembled in the school from the parts of other manufacturers. In working with this apparatus, Mr. Krause pointed out, the students acquire actual experience in installing, servicing, and repairing machines, and learn to make practical estimates of refrigeration requirements.

R. L. Covey is in charge of the instruction, and is assisted by C. H. Walter and W. N. Delenk.

1. Principles of Refrigeration: History of Refrigeration—Refrigeration Methods—Physical Laws controlling the Mechanics of Gases—Cycle of Mechanical Refrigeration.

The student begins his training with a short study of the history of refrigeration, which includes earlier refrigeration methods. The next step is to study the physical laws governing the principles of refrigeration and to master the cycle of the refrigerant in a compression system. Charts, illustrations, and complete refrigeration machines with sections cut away are used to give this instruction. In addition, actual demonstrations will be made by the student to illustrate and prove all basic principles.

2. Air Circulation in Refrigerators and Storage Coolers: Construction of Baffle Plates—Rate of Air Circulation —Comparison of Mechanical to Ice Refrigeration—The Preservation of Food.

3. Heat Measurement and Temperature: British Thermal Unit—Heat Principles applied to cooling—Latent Heat—Specific Heat.

The principles of latent heat of vaporization and latent heat of fusion and the application of these to the refrigeration field are explained and demonstrated. The technical subjects involved in this lesson are studied through the use of large illustrations and special apparatus constructed for student demonstrations.

4. Heat Transmission: Radiation—Convection —Conduction—Insulating Materials—Their properties and coefficients—Formulae for Calculating heat losses.

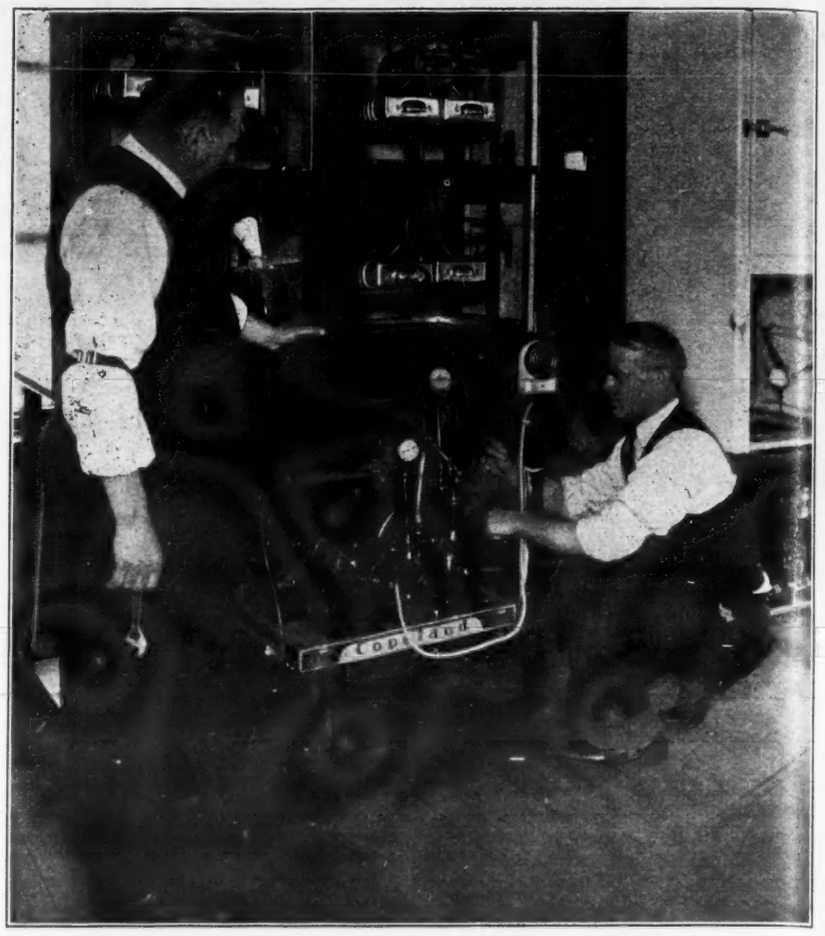
### Three Methods of Heat Transfer

The student studies the three methods of heat transfer which include work on the insulating values of different types of insulation. The fundamentals for estimating heat losses through insulation are also fully covered.

5. Refrigerants and Their Properties: Pressures—Gauge Pressure—Absolute Pressure—Absolute Zero—Table of Refrigerants—Boiling and Melting Points of Refrigerants.

All the different refrigerants used in the refrigeration industry are studied.

## *Studying a Copeland Multiple*



National Refrigeration Institute students in laboratory

The functions of gauges and vacuum pressures are explained. In addition, various demonstrations are given to show the advantage and disadvantage of different kinds of refrigerants.

6. Compressors and Their Parts: Piston Valves—Port Valves—Discharge Valves—Shut off Valves—Lubrication — Theoretical Capacities of Compressors.

The student now starts on work of a more practical nature. He begins by assembling cylinder and rotary compressors of various makes. This requires him to install and adjust all valves, to inspect, replace or lap the seals, and to charge the machines with the proper refrigerant.

His next step is to place the completely assembled units on the test bench for final inspection and his instructors see that each machine is operating efficiently. In conjunction with this practical work, the capacities of various types and sizes of compressors are also studied.

7. Expansion Valves: The purpose and functions of expansion valves; their construction—Adjustments—Repairing.

8. Brine Tanks and Circulating Brine Systems: Indirect Refrigeration —Brine Mixtures—Advantage and disadvantages of Brine Systems.

The principles of indirect refrigeration methods are thoroughly explained and demonstrated by the use of different brine tanks and circulating brine systems.

9. Floats: Direct Refrigeration—High Side Floats—Low Side Floats.

The student, therefore, will become acquainted with all kinds and sizes of floats, both high and low side. He will assemble and install them with the proper unit, and check their operation under actual working conditions.

### Temperature, Water Controls

10. Controls: Thermostatic Controls —Pressure Controls—Two Temperature Controls—Water Controls.

Every known type of thermostatic control, pressure type control and water control is used in this school in combination with the proper kind of unit. Standard equipment as well as special equipment to meet unusual applications of temperature regulation is demonstrated.

11. Motors: Rotors—Commutators. Wiring—Wattage—Voltage—Amperage —Radio Interference.

Sufficient training in theoretical and practical electricity is given to enable the student to do his own electrical

*(Concluded on Opposite Page)*

# INSTITUTE STUDENTS GET PRACTICAL HELP

(*Concluded from Opposite Page*)

installation work. This includes the service work required in taking care of all control and regulating switches, motors, etc.

12. Installation Work: Installing Domestic Refrigeration Units.

13. Installation Work: Installing multiple units or central plants.

The training here is similiar to that given in the preceeding lesson, but instead of household units, an entire Multiple hook-up is used. In addition to the work done on the machines at the school, the student will make tours of inspection to several of Cleveland's big apartment dwellings to receive first-hand information about this type of work. Incidently, all installation work is taught according to the National Code.

Commercial Installations

14. Installation Work: Installing Commercial Equipment — Ice Cream Cabinets—Water Coolers—Restaurant & Meat Coolers—Vending Machines—etc.

15. Air Conditioning: Humidity—Air Washing—Circulation of Aair.

16. Maintenance and Repairs: Expansion Valve Type Units.

Every known type of service complaint on the expansion valve type of vaporizing coil is analyzed with reference to the easiest and best way to accomplish the necessary repairs. This training is given through personal coaching while working on actual machines.

17. Maintenance and Repairs: Low Float Type Units.

Particular stress is laid on diagnosing service complaints on this type of unit. And, to make the training as practical as possible, the student is given every opportunity to handle service complaints under conditions similar to what he would find in the field.

Servicing of Orphan Machines

18. Maintenance and Repairs: High Side Float Units.

Instructions in servicing the more or less obsolete types of refrigeration systems are also given. This is done because many so called "orphan" units are still in use. Each of these, in addition to the older models of existing manufacturers are thoroughly explained with reference to possible service requirements.

19. Maintenance and Repairs: Multiple and Special Installations.

Since multiple apartment house installations have come into common use, it is increasingly necessary that the student be trained to service this type of installation. A thorough discussion of the service involved as well as actual work in servicing these machines is given. In addition, the student will make tours of inspection to several of Cleveland's large office buildings and hotels where he will receive first-hand information about the service requirements of multiple installation water cooling systems.

20. Absorption Systems: Large Absorption Systems—Small Absorption Systems. The Electrolux.

21. Plan Reading: Basic principles underlying all mechanical and architectural blue prints—Symbols—Use of scale.

22. Estimating: Commercial Estimating including large and small storage coolers—Water Cooling Systems. Multiple Apartment House Installations—Service Costs—Etc.

The training given here covers all kinds of estimating. This includes calculating the size of machine needed to meet certain refrigeration requirements. Also installation costs including labor and materials, and all other work pertaining to the duties of the estimator.

23. Service Management: Personnel — Shop Management — Business Management. Service Station organization.

The student who wants to prepare himself for advancement to executive positions with refrigeration companies is given an insight into the problems confronting the service manager. This includes service department management, securing and filing useful data, handling customers' complaints, instructing installers and service men on improvements and new developments, warehouse and delivery problems, collections for service, etc.

This training is given through a series of evening lectures given by service managers employed by refrigeration manufacturers.

## *Welding Liquid Receivers*

Elimination of the human element in the welding of liquid receivers has been accomplished by Kelvinator Corp. with the installation of this automatic welding machine. The machine's capacity is about 60 per hour, which is double the production of hand operation.

## MINERAL PRODUCTS OUTPUT NEARLY 5 BILLION DOLLARS

WASHINGTON, D. C.—Approximately $4,795,000,000 worth of mineral products were produced in the United States in 1930, according to estimates recently announced by the U. S. Bureau of Mines. The following figures were released:

| | |
|---|---|
| Metallic | $ 985,000,000 |
| Non-metallic (other than fuels) | 1,028,000,000 |
| Mineral fuels | 2,782,000,000 |
| Total | $4,795,000,000 |

## MASTER ELECTRIC CO. ADOPTS AIR TRANSPORTATION

DAYTON.—Officers of the Master Electric Co., manufacturer of motors and other electrical devices used in the electric refrigeration industry, have adopted the most modern method of transportation with the purchase of a four-passenger cabin monoplane to promote closer contact with their customers. Another service provided by the plane will be the ability to dispatch at a moment's notice, motors and parts to customers when emergencies arise.

ENGINEERING SECTION
# ELECTRIC REFRIGERATION NEWS
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VOL. 5, No. 17, Serial No. 119, Part 3, April 22, 1931

## Editorial Aims of the News

**To encourage the development of the art.**

**To promote ethical practices in the business.**

**To foster friendly relations throughout the industry.**

**To provide a clearing house for new methods and ideas.**

**To broadcast the technical, commercial and personal news of the field.**

## Better Installations

A WELL made installation of refrigeration equipment reflects credit on the entire industry, as well as lending prestige to the contractor who did the job. Installation practices have improved in all the allied lines of building equipment—elevators, wiring, heating, plumbing and refrigeration. Codes have been established, and municipal inspectors are alert to discover violations.

No installer of building equipment can acord to skimp in materials or workmanship, if only for the reason that comparisons of the various installations in a building will soon reveal a recalcitrant contractor.

The whole electric refrigeration industry realizes the desirability of neat and adequate installations, for the development of the industry depends upon satisfied users. Each code violation and each unjustified economy made to get an order will reduce the contractor's own volume of business, and increase the resistance to sales of more equipment by himself and his competitor. This affects the manufacturer and distributor, and in turn the revenue of the power company and the relations of each branch of the industry with the consumer.

Because electric refrigeration is the newest development that owners of buildings provide for their tenants, the adoption of the most improved installation methods is very necessary. The industry is expending much time and money in advancing refrigerating technique, and the wide-awake installation man is keeping abreast of the progress made for his benefit.

* * *

## Engineering Becomes Beauty

FOR some time designers of electric refrigeration cabinets have been striving for grace of line and harmony of proportions. Manufacturers of hardware have been especially active in creating designs of striking appearance. The effects achieved in contriving to obtain symmetrical cabinets have been so successful in some instances that the comeliness of these cabinets has been stressed strongly in advertising.

As to refrigerating machines, nobody has ever claimed—or even suspected—that there was any element of beauty in a compressor. Entirely surprising, then, is the pronunciamento of Walter Dorwin Teague in *Advertising Arts* (March supplement to *Advertising & Selling* magazine) that the much-discussed G. E. "monitor top" is artistic.

While engineers may have conceded that this unit was good engineering, some have thought that it was about absolute zero in art. Comes now an artist who knows little, and probably cares less, about engineering, who says that this machine is good art!

Beside a photographic close-up of the G. E. unit, Teague writes: "Frank honesty is the basic principle of good modern design. It is only when we try to conceal, dissemble, and 'decorate' that we go wrong."

Mr. Teague, who is the designer of the new 16-cylinder Marmon automobile, is a leading exponent of the functionalistic school of art, which holds that the use for which a thing is intended should control its design. Natural beauties of materials should be enhanced, and the possibilities for shapely refinements in manufacturing processes should be developed to the utmost, he believes.

"America has surpassed all in industrial development and the application of scientific methods to machine production. These advantages should be expressed in our designs," he writes. "Then we shall be able to lead the world in style as well as in production.

"Truly modern design has a geometrical character, because precise geometrical forms are best adapted to machine production, and are the most significant to our machine-trained eyes. Any attempt at mere bizarre effect is a sin against the modern spirit."

The modernism that produced the angular furniture, which has been disturbing our comfort for the last few years, is now, happily, passe in the furniture industry, according to Teague.

"It lived its career chiefly in shop windows," says the designer. The whole episode, he thinks, was an outstanding example of an unprofitable direction into which enterprise can be turned when pseudo-artists dominate the common sense ideas of engineers.

It is the suggestion of the NEWS that designers of the refrigerating machines produced in this industry go back and take second looks at their brain-children. Just as Shakespeare could find "Sermons in stones, books in running brooks, and good in everything," so may refrigerating engineers be able to find poems in thermostats, symphonies in condensers, and beauty in compressors.

## GLEANINGS
### FROM RECENT PERIODICALS

What will they laugh at in 1981? I nominate the appalling sweating that nine Americans out of ten do in Summer. Once they froze in Winter and sweated in Summer; now they are decently heated in Winter, but in Summer they still sweat.

Why this should be so I can't make out. It should be an easy matter for any competent engineer to design a cooling system for dwelling houses, but so far it has not done—at all events, not in a way to bring it within the means of most of us.

Dining cars are now cooled, and so are barber shops and movie parlors, but even the best hotels are furnaces from the beginning of July to the end of September, and most private houses are infernos.

All this will be gone and forgotten by 1981. I'll be 101 years old then, and probably somewhat feeble, but I'll be comfortable at last.—H. L. Mencken in *The American Mercury*, April.

## *On Our Bookshelves*

"AUDELS ANSWERS ON REFRIGERATION"
Publisher: Theo. Audel & Co., 65 West 23rd St. New York City.
Pages: 688. Price $2. Date of Printing: 1930.

FOR THE practical refrigerating engineer who is daily confronted with operating problems, this book will be handy in clarifying the applications of well-known refrigeration principles. The text deals largely with factual information about the industrial ammonia systems, with a brief treatment of the refrigeration theory in the opening chapters.

The information is presented in a series of briefly-stated questions and their answers, with some 250 illustrations and descriptive diagrams which tie in directly with the accompanying explanations. Language familiar to the practical engineer makes the handbook comprehensible to the wrench and blueprint clientele for which it was written.

Discussion of the characteristics of each common refrigeration system, accompanied by operating directions, should be valuable to the operator in grasping an understanding of the various plants.

Ice-making methods, and the practical chemistry involved, are outlined, and the handling of manufactured ice up to the point of shipment explained. Treatment and storage of creamery products is briefly touched in the pages which portray the varied uses of refrigeration and the peculiarities of each application.

A good many pages are devoted to storage house operation, pointing out how temperatures are controlled, ventilation accomplished, and humidity regulated. A closing chapter provides terse directions for treatment of persons injured in accidents.

The volume is well indexed with approximately 40 pages alphabetically listing the numerous topics discussed.

# Refrigerator Rating Proposed

(*Concluded from Page 1, Column 1*)

the validity of a conditional sales contract can be questioned in some states, unless that instrument or lien has been properly filed.

It was the decision of the division that requests from all sources for equipment to be tested, rated, or otherwise investigated, be referred to N. E. M. A. headquarters for investigation as to the reasons for the requests, and the responsibility and qualifications of the applicant.

The proposed uniform method for specifying gross and net cubic content and shelf area of refrigerators, presented by the Technical Committee, was unanimously approved by those present for a subsequent adoption as a N. E. M. A. standard. The proposed method is shown below.

**Recommended Standard Method of Computing the Gross Volume, the Net Food Storage Volume and the Food Shelf Area of Domestic Refrigerators Recommended March 24, 1931.**

(1) **Inside Depth:** The inside depth of the cabinet shall be the distance between the inside door pan and the rear lining.

(2) **Inside Width:** The inside width shall be the distance between the inner surface of the side walls of the lining.

(3) **Inside Height:** The inside height shall be the distance between the inner surfaces of the floor and ceiling of the cabinet.

(4) **Gross Cubic Content:** The gross cubic content of any refrigerator cabinet shall be the product of the inside height, inside depth and inside width as defined above.

(5) **Net Food Storage Volume:** The net food storage volume shall be the gross cubic content minus the volume taken up by the cooling unit, baffles or other parts plus the volume of the ice freezing or food storage compartments contained within the cooling unit.

(6) **Depth of Cooling Unit:** (a) The depth of the cooling unit shall be taken as the depth of the cabinet as heretofore defined.

(b) Exceptions to this may be noted only if there is a clear space of four inches or greater in front or back of the cooling unit baffle, or ice tray pulls, to the inside front or back of the cabinet as measured for depth and this space arranged for food storage.

(c) In this case the depth of the cooling unit shall be taken as the distance from the rear wall of the inner liner to the foremost part of the cooling unit, ice tray pulls, or baffle, whichever is the greater, or from the inner surface of the door to the rearmost portion of the cooling unit.

(7) **Width of Cooling Unit:** (a) The width of the cooling unit shall be taken as the greatest outside width of the cooling unit itself, or if side baffles are used, the overall width including the baffles, whichever is the greater.

(b) If there is less than a four-inch space between the unit or baffle and the side of the inner lining, the distance from the inner lining to the outer surfaces of the cooler unit or baffle (whichever is the greater), shall be used as the width.

(8) **Height of Cooling Unit:** (a) The height of the cooling unit shall be the distance from the ceiling of the cabinet as previously used for inside height to a plane horizontal with a mean point on the bottom of the drip tray or the lower baffle, whichever is the greater.

(b) On non-automatic defrosting type cooling units the space occupied by the drip tray may be included in the net food storage volume if the drip tray is of the removable type and usable as food storage space.

(c) The space directly above the cooling unit shall not be included in the net cubic volume except in cases where the unobstructed storage space is greater than four inches in height, specifically arranged for food storage and is readily accessible.

(d) The volume of the ice freezing compartments or low temperature food storage compartments shall be included in the net food storage volume.

(e) The volume of these ice freezing compartments shall be calculated from the inside dimensions of the sleeve.

(f) In the case of low temperature food storage compartments, the net volume shall be computed as heretofore defined, each compartment being considered as a separate refrigerator.

(9) **Food Storage Shelf Areas:** (a) Food storage shelf area shall include the area of shelves and the area of the bottom of the liner as hereinafter defined.

(b) In calculating the area of full shelves and of the bottom of the liner, the inside width and depth of the cabinet, as previously defined, shall be used.

(c) When any shelf is recessed, the area of the recess shall be deducted. The width and depth of the recess shall be the distance from the edges of the recess to the adjacent interior surfaces as used in figuring gross storage volume.

(d) In computing the area of fractional shelves, the width and depth of the shelves shall be the distances from the adjacent interior surfaces of the cabinet to the outer edges of the shelf.

(e) For fractional shelves adjoining the evaporator compartment, the width of the shelf shall be the interior width of the cabinet minus the width of the evaporator compartment as heretofore defined under "Food Storage Capacity."

(f) Whenever the space occupied by the drip tray is included in the net food storage volume, the part of the shelf supporting the drip tray may be considered as food shelf area; otherwise it shall not.

(g) The area of the bottom of the individual ice freezing or low temperature storage compartments, included as a part of the cooling unit, shall be considered as food shelf area; the width and depth dimensions used in computing their volumes to be used in calculating the food shelf area.

(h) The area of the bottom of containers arranged to be suspended from any cabinet shelf shall be considered as food storage shelf area.

(i) The area of that part of the shelves having less than four inches of clearance above shall not be counted, except as otherwise specified in 9 (f), (g), and (h).

(10) **Volumes and Areas:** (a) Gross and net food storage volumes shall be reported to the nearest 0.1 cu. ft.

(b) Food shelf areas shall be reported to the nearest 0.1 sq. ft.

# WILE REVEALS DATA ON HEAT TRANSFER

(*Concluded from Page 1, Column 5*)

tubing of 10 and 12 ft. lengths. The ¼ in. tubing in lengths of 10 and 12 ft. transmitted 375 and 352 B. t. u. deg. F. hour sq. ft. of internal surface of 18.3 and 17.3 B. t. u. based on the lineal foot of tubing. These values were over 30 per cent higher than the coefficients of 285 and 274 obtained for ⅜ in. tubing.

"The industry, however, is used to the larger size tubing for cooling coils," Mr. Wile said, "and we finally designed the two-tray unit with 11½ ft. of ⅜ in. coil."

"Another problem was to determine the rate of heat transfer from the external surface of the aluminum casting to the air in the refrigerator box, in order to design cooling units with the proper amount of surface. Temperature readings from thermocouples in the food compartments and on the surface of the evaporators installed in two refrigerators, were used for the basis of this investigation," according to Mr. Wile.

The laboratory set-up for measuring the refrigerating capacity of the evaporators was next described, and in turn the investigation of the time required to freeze ice cubes with the new units.

The problem of corrosion appeared to be serious at first because aluminum forms a white, spongy deposit when exposed to moisture for long periods of time, he said, and declared that it had been solved by boiling the units in paraffin. Mr. Wile's complete paper will be published in an early issue of the *Engineering Section of* ELECTRIC REFRIGERATION NEWS.

A. H. Baer, president of the society, was present at the meeting and made a few remarks about importance of the society's activities in furthering acceptance of the new code. He also suggested that members make a special effort to interest young engineers in the organization.

C. A. Stroup of the Sante Fe railroad addressed the meeting for a few minutes, telling about special trains to the spring meeting of the society, May 6, 7 and 8, in Kansas City.

## *Letters From Readers*

631 Lincoln Ave.
Fresno, Calif.

Editor:

*The Engineering Section* of the NEWS is the answer to my wishes. This is the section that I have been waiting for since the first issue. And by the way, I am proud of the fact that I have an almost unbroken file of the NEWS since the first issue, when the last one came I got out Volume 1, No. 2 which contains an article on merchandising, and compared this article with the one written on the same subject in recent issues.

The progress that the NEWS has made is indeed very remarkable, and the people who are responsible for this progress should be held in very high esteem by the industry. There are a great many people who do not realize the amount of time, money, and energy that must be expended to produce a paper of this kind, and they do not fully appreciate the true value of it to them.

I would appreciate very much if you would list me in your next list of independent service companies.

I have been in business nearly two years and have been very successful in the service business: My list of customers is growing every day. By having my shop at my residence, I am able to maintain a 24-hour service seven days per week without extra help to take care of the telephone calls. I service all makes of machines using ammonia, butane, or the chlorides. As I maintain a standard price for labor, and sell all parts and accessories at list price, there is no cause for a misunderstanding with the customer.

Thanking you for all past favors and wishing you still greater success with the NEWS.

E. E. MARTIN, MGR.,
Martin's Refrigeration Service.

# SERVICE HINTS

By FRANK W. GRAY

Occasionally it becomes necessary to design and build water cooling equipment in the service shop. A common system of water cooling installation includes an insulated tank with block tin water coils bracketed to the sides, the refrigerating coil being in the center of the tank.

This method of installation has been used successfully both in building new coolers, and in converting ice coolers to electric refrigeration. By raising or lowering the level of the sweet water bath in which the coils are submerged, a moderate range of temperature adjustment is possible. One error which the service man must guard against in this type of installation is that of having the water coil so long that the water pressure is perceptibly lowered.

Where the pressure in the city mains varies, or where a filter is used on the water pipes which lowers the pressure, the service man must be careful in designing his equipment not to decrease the pressure to a point where there is an annoying delay in the drawing off of water. Where the low pressure condition is found, a pressure-type water cooler may be used to best advantage.

---

The presence of impurities in a refrigeration system is nearly always a source of trouble. Clean, dehydrated copper tubing is necessary to dependable installation work. All service men know this. Yet there are cases of refrigeration dealers who seek to economize in their purchases of copper tubing, and in doing so buy tubing that is inferior in grade.

Such tubing may have scale in it, probably is not completely dehydrated, and may be so brittle in places that it will not turn up a good flare connection. Inferior copper tubing has been the cause of a great deal of poor operation in refrigeration work. Needless to say, a few service calls cost far more in labor and materials, and in the loss of good will, than slight economies effected in the prices of tubing.

---

Service men should be careful not to braze fittings into any part of a refrigeration system where the brazing comes into direct contact with the circulating refrigerant. A brazed joint in time sloughs off tiny particles of metal which are apt to lodge on the faces of valves. One instance was found by the writer, where service men, lacking a certain type of fitting, had brazed up a large number of them from other fittings and had installed them in commercial systems using expansion valves.

Trouble developed in all of these installations, and poor action of the valves was diagnosed as resulting from a gradual crystallizing and sloughing off of the brazed fittings. If joints must be made in this way, soldered joints while not as strong as the brazed joints, will not disintegrate as easily.

---

In using the pressure-type water cooler, half the capacity of the cooler may be figured upon for renewal of cold water drawn off during each running hour. In other words, a five gallon capacity cooler has a renewal potentiality of two and one half gallons per hour. The real draw-back to the pressure-type cooler is dilution.

Two gallons of cold water are drawn off from a five gallon cooler, and two gallons of warm water enter the tank, raising the temperature of the entire contents several degrees. An interval is necessary, therefore, in order to cool the contents down to the required temperature.

Since in most water-cooling installations, such as in restaurants and cafes, the peak load requirements at meal hours allows no such interval in operation, the tendency is for the water to become gradually warmer at the faucet. One way of remedying this defect is to use two five gallon pressure-type coolers connected up in series, the inflow of water being pre-cooled in one tank before entering the other. As many as four such coolers have been used in a series with very favorable results.

---

When a strainer or dryer is installed in the liquid line ahead of the compressor, it should never be put between the compressor and the pressurestat control. The reason for this is that if the strainer or dryer become stopped up, with the stoppage in the liquid line between the compressor and the pressurestat, the control device cannot cut off the machine on the high pressure side, and the machine will continue to operate at a high head pressure which might burn out the motor or cause other damage.

---

Overhauling of old water coolers which were designed for ice refrigeration and installing in them electric refrigeration cooling coils is in most cases expensive and unsatisfactory work. Very few ice coolers have a tank large enough to contain low-temperature refrigeration cooling coils allowing a sweet water bath of sufficient capacity to prevent freezing up of the water coils during slack hours.

In case such coolers are overhauled, it is always best to wind the water coils around the upper half of the tank rather than to leave them on the bottom of the tank where they are usually installed for ice use. Usually, however, it is economical to build an entirely new water cooler according to electric refrigeration requirements, or else to install a pressure-type cooler with an insulated outlet pipe leading up to the water faucet.

---

Compressor belts must be re-adjusted occasionally to take up the slack occasioned by normal wear. The normal adjustment for a belt is of sufficient tension to permit a slack of about one inch from the horizontal when the belt is pressed down with the finger. Poor adjustment of belts often results in the compressor working at a handicap, and often causes a shut down of operation. A little resin on a belt will prevent slipping.

---

The service man should train his ear to recognize the sounds of deficient operation in a refrigeration system. The experienced service man depends upon his ears to diagnose mechanical trouble almost more than his eyes. For instance, a hissing boiler indicates a refrigerant-starved system, a certain type of pound in a compressor indicates high head pressure, a click from the cylinder of the compressor usually means improper action of the discharge valve, etc. All sounds of operation have variations which may indicate defects in operation, and which the service man can train his ear to recognize.

---

Even when a service organization is small, and no service foreman is hired, each job should be supervised by some one service man. This man should be held responsible for correct operation. A great deal of inefficiency has resulted from sending various men out on trouble calls, each of whom may have had ideas of his own as to the cause of the trouble and had no knowledge of what the man on the job before him had done.

It is necessary for a service man to know just how many pounds of refrigerant have been put into a system, just how much oil has been added, and just what preliminary tests have already been made. Otherwise much waste of time will result.

---

When commercial or apartment house systems are installed some sort of a service job sheet should be devised by the dealer, upon which is recorded every item of material that goes into the job, and every adjustment and gauge reading that is made.

This procedure is not only necessary in order to determine correct costs, but in order to check up on a job if trouble develops. A man's memory is often treacherous. No one can tell when a service man may leave a organization, carrying with him all data regarding jobs installed when no accurate job sheets have been recorded.

## KELVINATOR FINDS SCHEME TO IMPROVE CYCLING

DETROIT—Kelvinator engineers have discovered that small pieces of specially-prepared wood placed in the vaporizing tubes of the flooded system cooling units will increase the speed and ease of evaporation of the refrigerant. This resulted in even cycles, the elimination of oil binding, a closer temperature differential between the cooling unit and the refrigerator, more even multiple cooling unit operation, and higher suction pressures, according to the *Kelvinator Service News*.

All flooded cooling units made by Kelvinator are now being equipped with these wood pieces, known as "ebulators." They are treated with oil to make them moisture free. To install them it is only necessary to remove the float valve, and put in the proper kind of ebulators furnished by Kelvinator.

# N.E.M.A. ESTABLISHES WIRING STANDARDS

NEW YORK CITY—Wiring standards for panelboards and distribution boards are presented in a pamphlet just issued by the National Electrical Manufacturers Association.

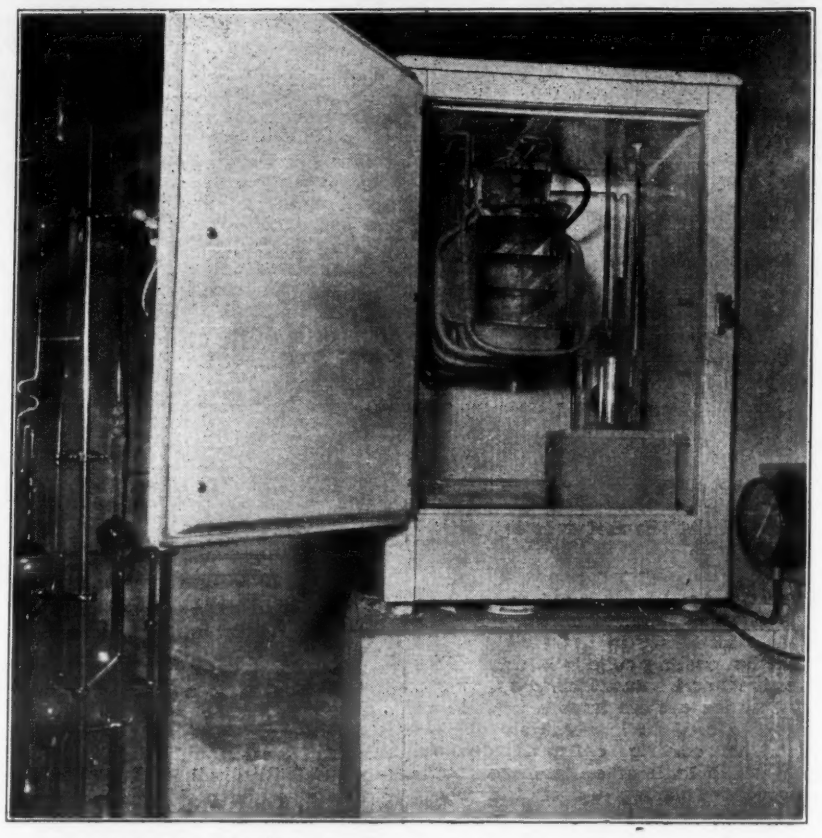
This pamphlet shows design and construction features which experience and research have indicated to be satisfactory mechanically and electrically from the standpoint of safety and service. It was prepared by the Panelboard and Distribution Board Section of the Association, whose members have produced a large majority of all such equipment since the year 1918.

In this respect particular attention should be given to the capacity of the main bus bars on panelboards. The stock designs are based on a reasonable load factor and if the lighting arrangement indicates that a large number of the circuits on a panelboard will be turned on one at time the manufacturer should be informed.

A valuable new section of the pamphlet contains a list of definitions of various terms used in connection with panelboards and distribution boards. These have been made to correspond closely with the definitions of the Association of Electragists, International.

The pamphlet is 8x10½ inches in size and contains 32 pages bound in brown linen-finished cover. Copies may be obtained from the National Electrical Manufacturers Association, 420 Lexington Ave., New York, N. Y.

# *World's Most Valuable Mineral Protected by Refrigeration*



Approximately $250,000 worth of radium is kept in this Leonard cabinet installed in the Palmer Memorial Hospital, Boston. A temperature of 40 deg. F. is maintained with a 16-VM cooling unit connected to a model AB Kelvinator compressor. The energy emanating from the radium is absorbed by the fluid circulating through the bulb containing the mineral. The fluid is then used for treatment.

# UNORTHODOX HOUSE BUILT IN NEW YORK

NEW YORK CITY — Our present homes are anachronisms from the seventeenth century, out of date with the requirements of modern living, according to A. Lawrence Kocher, architect. Houses have not kept pace with mechanical advancement, because of esthetic prejudice, downright conservatism, and an overemphasized regard for the antique, he says.

A house which disregards all orthodox methods of construction, and is conceived for present day requirements, has been built, actual size, in Grand Palace, by the Architectural League of New York. Later the house will be transplanted to a suburban plot for some twentieth-century pioneer.

"Features of the house that serve no modern need, such as the cellar, which is expensive to build and is a holdover from the days before mechanical refrigeration, are eliminated," states architect Kocher. Half the ground area is regained by means of a flat roof made into a garden terrace.

The construction is mainly glass, aluminum and steel, insulated so that a three-inch wall is more effective than 14 inches of masonry in excluding heat and cold. The total weight of the metal house is only one-twelfth the weight of concrete and steel construction.

The main duplex living room will have glass walls at two ends, or windows occupying the full area. Special glass is used to permit the penetration of the beneficial ultraviolet ray of the sunshine.

Claude Neon low voltage tubing, properly balanced to produce white light, is sunken in the ceiling over the windows. Special Eriksen assymmetric chromium reflectors and Holophane refracting lenses spread the light.

Midway up the windows is a row of ultraviolet tubing, arranged in a revolving reflector, which may be controlled for direct exposure or to reduce the amount of ultraviolet vitamin D light as desired. Similar tubing is installed at the low ceiling end of the room.

The dining area is convertible into additional living space. A rubber surfaced table rolls back on a cylinder, something like a window shade. Rooms are laid out with folding partitions, and hygienic ventilation is provided.



# CALCIUM CHLORIDE BRINE INSTRUMENT ANNOUNCED

CHICAGO—An instrument called the "Calci-Chlor-O-Meter" has been developed by E. Edelmann & Co. of this city for determining the freezing point of calcium chloride brine without reference to external tables for temperature corrections.

The freezing point of any brine from 20 degrees below zero F. to 120 degrees F. can be determined in a time as it takes to read the instrument, the manufacturers claim. The temperature of the brine is taken into consideration automatically.

The instrument combines in a syringe, a hydrometer and a thermometer, with a container and a means of withdrawing the brine. It has its own correction table which resolves the float scale reading and temperature down to the freezing point of the brine being tested.

No knowledge of mathematics or chemistry is necessary to use the "Calci-Chlor-O-Meter," its makers state. To operate the instrument, the solution is drawn into the instrument, the float read, and the thermometer and float readings compared on the correction table on the thermometer.

# *Ideal Electric Develops Drip-Proof Motors*

MANSFIELD, OHIO—Drip-proof motors which are protected against water or other liquids dripping on it or splashing through the ends, have been announced by the Ideal Electric & Mfg. Co. of this city.

They are designed particularly for places such as bottling, ice cream, and dairy plants where it is necessary to wash down the equipment with a water spray every day. When water is thrown into a motor it is discharged through a vent at the bottom of the center enclosing jacket. Air circulation is from both ends toward the center and out through this vent.

Shrouded fans located just inside the brackets at each end of the motor produce the action which discharges the water. These fans catch any water entering through the end of the motor and throw it against the inside surface of the bearing bracket. It then runs down the inside of the bearing brackets and out through the vent without touching the windings.

The outer surfaces of the motor are designed so that water dropping on them travels around the end to the base without entering the motor.

# J. C. FORSYTH CELEBRATES FORTIETH YEAR OF SERVICE

NEW YORK CITY—Joseph C. Forsyth, supervising engineer for the New York Board of Fire Underwriters, is celebrating the fortieth anniversary of his connection with the Board this month.

Fremont Wilson, consulting engineer, who was responsible for getting Forsyth his job 40 years ago, introduced the latter at a meeting of the New York Chapter of the International Association of Electrical Inspectors, held at the Westinghouse Lighting Institute. The veteran was given a big ovation.

# REVERE COPPER CO. MOVES SOME OF ITS OFFICES

NEW YORK CITY—The executive, general sales, and advertising departments of Revere Copper and Brass, Inc. have been moved to the New York Central Bldg, 230 Park Avenue, of this city, instead of at Rome, New York.

The officers of the company who will now make New York their headquarters are: C. Donald Dallas, president; George F. Stanton, vice president and general sales manager, and J. A. Doucett, vice president and assistant general sales manager.

The treasurer's office and general accounting department remain in Rome.

# REFRIGERATION PATENTS

## ISSUED APRIL 7

1,799,201. REFRIGERATOR. Baltzar Carl von Platen and Carl Georg Munters, Stockholm, Sweden, assignors, by mesne assignments, to Electrolux Servel Corporation, a Corporation of Delaware. Filed Nov. 21, 1925. Serial No. 70,649. 4 Claims. (Cl. 62—119.5.)

1. Filling apparatus for a refrigerator comprising a housing containing a chamber adapted to have communication with a refrigerator, means to create a vacuum in said chamber, means to indicate the pressure in said chamber, means to supply said chamber with a solution of cooling agent and with an auxiliary agent, a sealing member inserting means within said chamber and means to move said inserting means longitudinally and rotationally from outside the housing while the housing is under pressure.

4. Method of filling a refrigerating apparatus which comprises removing air from the apparatus to obtain a vacuum, drawing into the apparatus a quantity of nitrogen under the influence of the vacuum produced, removing the nitrogen with matter taken up by the same to again obtain a vacuum, drawing into the apparatus a predetermined quantity of solution of ammonia in water under the influence of the second vacuum created, forcing hydrogen gas into the apparatus to a substantially high pressure and hermetically sealing the apparatus.

1,799,255. PROCESS OF MAKING INSULATING MATERIAL. Arthur J. Russ, Oakdale, Pa., assignor to Armstrong Cork Company, Pittsburgh, Pa.., a Corporation of Pennsylvania. Original application filed May 6, 1926, Serial No. 107,287. Divided and this application filed April 15, 1927. Serial No. 184,175. 4 Claims. (Cl. 18—47.5.)

4. The process of making a composite insulating material comprising laying down a substantially dry facing mix of cementitious material, placing the body material thereover, the body material comprising a diatomaceous earth mix having water therein, and utilizing the liquors from the body material in the facing mix.

1,799,372. REFRIGERATING APPARATUS. Harry B. Hull, Dayton, Ohio, assignor, by mesne assignments, to Frigidaire Corporation, a Corporation of Delaware. Filed Nov. 20, 1926. Serial No. 149,759. 5 Claims. (Cl. 62—116.)

1. A refrigerator including a cabinet; a condenser within the cabinet; a partition separating said cabinet into a plurality of compartments; a passage between said compartments; one wall of the cabinet being open for the ingress of air into one of said compartments and for the egress of air from another of said compartments; a compressor within one of said compartments, connected with the condenser; means within another of said compartments for driving said compressor; and a fan within said cabinet actuated by said means for causing the circulation of air through said compartments and about said condenser.

1,799,449. COMPRESSOR FOR REFRIGERATING APPARATUS. George F. Woelfel, Madison, Fla., assignor to The Commercial Clearing Corporation, Jacksonville, Fla., a Corporation of Florida. Filed March 1, 1928. Serial No. 258,279. Renewed July 8, 1930. 7 Claims. (Cl. 230—222.)

1. In a refrigerating system, a compressor, including in combination, a compressor cylinder, a piston reciprocating therein, a crank shaft for the piston, a motor operating the crank shaft, a valve controlling the intake and exhaust of gases from the cylinders, means conducting the exhaust of the cylinder from the compressor including a part operating under the pressure of the exhaust to apply pressure to the valve to maintain the same in engagement with its seat.

1,799,602. SHELF PEG OR REFRIGERATOR HOOK. Edwin W. North and Roy E. Larson, Rockford, Ill., assignors to National Lock Co., Rockford, Ill., a Corporation of Delaware. Filed Jan. 20, 1928. Serial No. 248,118. 4 Claims. (Cl. 248—18.)

1. The combination with a wall of a cabinet, one side of which is normally inaccessible, a peg adapted to be rigidly secured to and supported by said wall, said wall having a plurality of spaced apertures, said peg adapted to extend through one of said apertures and having a base flange adapted to engage the inaccessible side of said wall to overlie another of said apertures and a securing device insertable through said other aperture from the accessible side of said wall and adapted to engage said base flange for securing the same in place.

1,799,744. REFRIGERATOR. Edward Gruber, Cleveland, Ohio, assignor to Edmund E. Allyne, Cleveland, Ohio. Filed Sept. 3, 1927. Serial No. 217,413. 5 Claims. (Cl. 220—9.)

1. A refrigerator cabinet, comprising an outer metal shell, having a door opening, an inner metal shell spaced therefrom and having a storage chamber provided with an opening registering with said door opening, said shells being provided along the edges of said openings with shouldered seats, a heat insulating frame fitting the seats of both shells, and clamping means extending from shell to shell for securing said frame between them.

5. A refrigerator cabinet, comprising an outer shell including top, bottom and side plates, the latter being provided along their rear vertical edges with rearwardly opening channel portions, a channeled closure plate forming the rear wall and extending across between said side channels, and a cover for said channels removable from the rear.

1,799,940. REFRIGERATION APPARATUS. Edward T. Williams, Brooklyn, N. Y. Filed July 31, 1926. Serial No. 126,173. 15 Claims. (Cl. 62—116.)

1. Refrigeration appartus comprising, in combination, a cabinet having a refrigeration compartment and a machine compartment, a condenser casing constituting an air duct extending through an opening in a wall of said machine compartment, a blower within said machine compartment mounted on said casing and having a passage formed therein, and a condenser in said casing outside said machine compartment, said passage connecting said blower with said condenser casing whereby air is evacuated from said machine compartment and through said condenser casing.

1,799,991. REFRIGERATING APPARATUS. Harold K. Sellick and Milton Kallscher, Mansfield, Ohio, assignors to Westinghouse Electric & Manufacturing Company, a Corporation of Pennsylvania. Filed May 13, 1929. Serial No. 362,776. 6 Claims. (Cl. 257—22.)

3. A cooling unit for a mechanical refrigerating apparatus comprising a refrigerant conveying element, a metallic coating on the outer surfaces of said element and a metallic mass encasing the element, said metallic coating being formed of a metal having a higher melting point than either of the metals forming the element and the encasing mass.

1,800,133. ICE-CUBE TRAY. Joseph M. Chmelar, St. Louis, Mo. Filed April 9, 1930. Serial No. 442,940. 4 Claims. (Cl. 62—108.5.)

1. In a construction of the class described, a tray, a false bottom therein, ice molds located in the tray and seated on said false bottom, and means for elevating the false bottom.

1,800,150. HEATING AND COOLING OF BUILDINGS. Joseph Leslie Musgrace and Edgar Herring, London, England. Filed Jan. 19, 1928. Serial No. 247,995, and in Great Britain Jan. 29, 1927. 3 Claims. (Cl. 257—256.)

1. A heating or cooling panel of the kind described comprising a slab of insulating material, a sheet of heat conducting material extending across same, and pipes for the flow of fluid therein confined between said sheet and slab and contacting with said sheet, said slab, sheet and pipes constituting a unit adapted to be built in the wall, floor or ceiling of a room.

## REISSUES

18,025. REFRIGERATING DISPLAY APPARATUS. Eastman A. Burrows, Chicago, Ill., assignor to Thomas D. Huff, Chicago, Ill. Original No. 1,514,128, dated Nov. 4. 1924. Serial No. 459,822. Filed April 8, 1921. Application for reissue filed Nov. 3, 1926. Serial No. 147,162. 14 Claims. (Cl. 62—89.5.)

14. An apparatus of the class specified having a refrigerating support for supporting perishable articles for display purposes, said support consisting of granular material and frozen liquid, and means embedded in said support and adapted to maintain the same in frozen condition.

## ISSUED APRIL 14

1,800,255. REFRIGERATING APPARATUS. Harry B. Hull, Dayton, Ohio, assignor, by mesne assignments, to Frigidiaire Corporation, a Corporation of Delaware. Filed Dec. 30, 1927. Serial No. 243,700. 13 Claims. (Cl. 62—116.)

1. In a refrigerating apparatus comprising a machine for circulating refrigerant to a refrigerating element and having connecting piping extending between said machine and said element, means for conducting moisture condensed on said piping away from said machine, said means comprising a heat insulating tube concentrically spaced from said piping and adapted to lead said moisture away from said machine, said tube being made of rubber.

1,800,258. METHOD AND APPARATUS FOR REFRIGERATING. Luther L. Knox, Bellevue, Pa., assignor to Knox Products Company, Pittsburgh, Pa., a Corporation of Pennsylvania. Filed Sept. 22, 1926. Serial No. 136,983. 10 Claims. (Cl. 62—95.)

1. A refrigerator comprising a plurality of open sided compartments, a door for closing the open sides of the compartments, and packing strips cooperating with the door and the edges of the compartments for substantially isolating the compartments from one another.

4. A refrigerator comprising a compartment, and means for supplying a cooling medium to the walls thereof, the portions of the walls which are exposed to the cooling medium decreasing in area from the top to bottom of the compartment.

1,800,519. CLOSURE CONSTRUCTION FOR REFRIGERATORS AND THE LIKE. Carl Fredberg, Chicago, Ill. Filed Sept. 26, 1929. Serial No. 395,250. 12 Claims. (Cl. 312—189.)

8. A refrigerator or the like having a wall with an opening therein, a door, means to support and guide the door for movement along a definite path transversely across said opening between open and closed position, means on said door and said wall about the edges of said opening operable to provide a substantially air-tight seal about the edges of the door, and means for simultaneously adjusting said means on all of the edges of said door.

1,800,693. TESTING FOR LEAKS IN REFRIGERATING SYSTEMS. Ralph Marshall Major, Evansville, Ind., assignor to Servel, Inc., New York, N. Y., a Corporation of Delaware. Filed June 18,1930. Serial No. 462,155. 7 Claims. (Cl. 23—230.)

3. A method for the detection of an odorless evaporative fluid which does not of itself react chemically with any known reagent comprising adding a lachrymating substance which will be retained in solution with said odorless evaporative fluid and which is sensitive to the action of suitable reagent, and detecting the presence of the substance with the use of such reagent.

1,800,718. FLOATING MOTOR PULLEY. William D. Collins and Elmer Widerborg, Evansville, Ind., assignors, by mesne assignments, to Servel, Inc., New York, N. Y., a Corporation of Delaware. Filed Oct. 12, 1926. Serial No. 141,137. 4 Claims. (Cl. 74—26.)

1. A driving mechanism comprising a shaft, a cylindrical collar fixed on said shaft having a smooth outside surface, a flange on said collar, a plate attached to said collar spaced from the flange and leaving a bearing surface therebetween, a disc of narrower width than the bearing surface mounted on the collar between the flange and the plate, axial pins secured to said flange and passing through said disc, the arrangement being such that the disc has axial movement between the plate and the flange and rotates with the shaft due to the pins and a member with the disc.

1,800,846. HUMIDIFIER FOR REFRIGERATORS. Franklin G. Slagel, Buffalo, N. Y., assignor to Fedders Manufacturing Co., Inc., a Corporation of New York. Filed Mar. 27, 1930. Serial No. 439,473. 7 Claims. (Cl. 62—1.)

1. A humidifier for refrigerators comprising a pan adapted to receive the food to be stored, and having an upper ledge; and a cover having its marginal part resting on said ledge and provided with air ducts in the marginal part resting on the ledge.

1,800,953. REFRIGERATING APPARATUS. Glenn Muffly, Detroit, Mich., assignor to Copeland Products, Inc., a Corporation of Michigan. Filed Nov. 12, 1927. Serial No. 232,725. 11 Claims. (Cl. 62—116.)

1. In combination with a refrigerator cabinet, a main base, a motor mounted thereon, an auxiliary base removably secured to said main base, and a compressor and condenser mounted on said auxiliary base and being independently removable therefrom.

1,801,057. HUMIDIFIER. John P. Samels, Minneapolis, Minn., assignor, by mesne assignments, to General Heat Engineering Co., a Corporation of Minnesota. Filed Mar. 26, 1928. Serial No. 264,780. 1 Claim. (Cl. 183—18.)

1. In a ventilating apparatus, the combination with a heating device, of a humidifying receptacle, a water sprayer mounted in said receptacle, a heating casing surrounding a portion of said device, and means forcing a draft of air first into the bottom of said humidifying receptacle, thence upwardly against the action of said sprayer to substantially saturate the air with water.

# NEW COUPLER PERMITS 20 RADIOS PER AERIAL

DAYTON—Interference is minimized and multiple radio receiver installation on one antenna made possible by a new antenna coupler just developed by General Motors Radio engineers. This coupler also makes it possible to use long lead-ins without loss of signal strength, senitivity or selectivity, it is claimed. Tests have shown that more than 20 receiving sets may be operated on one antenna by means of this coupler.

When used with a single set, the coupler is installed in the speaker compartment. If two or more sets are used, an additional, or master coupler, is connected into the lead-in wires, using one master coupler to every ten receivers.

This antenna coupler has been found particularly adaptable to apartment house installations, as it does away with the need of erecting a large number of aerials on the roof, while considerable economy is effected for the tenants.

In a multiple receiver installation a special interference elimination antenna developed by General Motor Radio engineers is used. This consists of two stranded enameled copper wires, one directly above the other, ten or more apart and with the lower wire at least three above the roof. A twisted lead-in is installed.

The master coupler, tuned for the regular broadcast range, 550 to 1500 kilocycles, is installed between the sets and antenna, and connected with the receivers by a double twisted feeder line. A similar coupler, also tuned to the broadcast range, is attached to each set between the receiver and the master coupler, and connected to the ground and antenna posts of the receiving sets. One master coupler is sufficient for ten receiving sets, but if up to 20 are to be used, two master couplers are employed.

# KDKA WILL BROADCAST SALUTE TO MACHINERY BUILDERS

EAST PITTSBURGH, PA.—A Salute to Machinery Builders will be broadcast by station KDKA Broadcasting Co. at 9:45 p. m. Eastern Standard Time, Sunday night, April 26.

The theme of the program, which is to be sponsored by the Westinghouse Electric and Manufacturing Co., will be based on one of the fundamentals of American Industrial supremacy — the great steps which have been made, and are being made, in the use of machinery.

Carl A. Johnson, president of the National Association of Tool Builders, will be the guest speaker, and will offer a message to everyone connected with industry, according to the announcement. He will tell what machinery has contributed to the age in which we live, and how efficient and constantly-improved machinery is necessary to create and maintain prosperity.